CU consumer reports

April 1947—Vol. 12—No. 4

autos for 1947

electric food mixers

magnetic recorders

cameras

weed killers

oil burners & oil

building a house

baldness

colitis

phonograph records

CU's movie poll

Bread & Butter section

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CONSUMER REPORTS

Volume 12, No. 4 *April, 1947*

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The new Consumer Reports

This is the first combined issue of *Consumer Reports* and *Bread & Butter*. As announced in the February *Reports* and again last month, Consumers Union has discontinued the publication of *Bread & Butter* as a separate four-page weekly, and has added a *Bread & Butter* section to the monthly *Reports*. Of the 20 pages being added to the *Reports*, however (previous issues were 28 pages in length), only a few are being used for the material on consumer economics, legislation and so on which was carried in the weekly issues of *Bread & Butter*. And the main emphasis in the *Bread & Butter* section of the *Reports* will be on the analysis of major issues affecting consumers rather than on the reporting of news.

The remainder of the 20 additional pages will be used to give readers new material that they have been asking for. CU is fortunate in having what is probably the most vocal set of readers of any publication in the country. When they want or don't want something, they take pen in hand. More than forty thousand of them painstakingly filled in last year's annual questionnaire to let the CU Board of Directors and the CU staff know what their needs were and what they wanted and didn't want. And the new enlarged *Consumer Reports*, as CU pointed out when it announced the changes in its publications, is designed to meet many of the expressed wants.

One of the things that has always been apparent in the avalanche of comments that every mail brings to CU headquarters is that, much as readers want reports on automobiles, refrigerators and soap, they do not live by automobiles, refrigerators and soap alone. Now, without any sacrifice of the space devoted to product reports, CU can provide some of the other things, too. Hence the regular monthly report on phonograph records, the monthly movie poll, and the new department dealing with the design of products rated by CU's laboratory.

Chiefly, however, CU will use the additional space to provide more material in fields which have always been of greatest interest to *Reports* readers; for example, information for those who plan to build or buy a house, information on the purchase, care and operation of automobiles, more ratings of photographic equipment and accessories, regular monthly reports on gardening and and garden supplies, and an enlarged medical section covering a greater variety of subjects than heretofore in the field of health and medicine.

Much of the new material will be presented experimentally. If readers find it useful, then it will be continued; if they don't find it useful, something else will be substituted. CU asks all *Reports* readers to go through this issue with special care, and to express their opinions about it, whether favorable or unfavorable, in the 1947 annual questionnaire which they will receive in May.

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reports on products

Ratings of products represent the best judgment of staff technicians or of consultants in university, governmental and private laboratories. Samples for test are in practically all cases obtained on the open market by CU's shoppers. Ratings are based on laboratory tests, carefully controlled use tests, the opinion of qualified authorities, the experience of a large number of persons, or on a combination of these factors. Even with rigorous tests, interpretation of findings is a matter on which expert opinion often differs. It is Consumers Union's pledge that opinions entering into its evaluations shall be as free from bias as it is possible to make them.

Electric Food Mixers

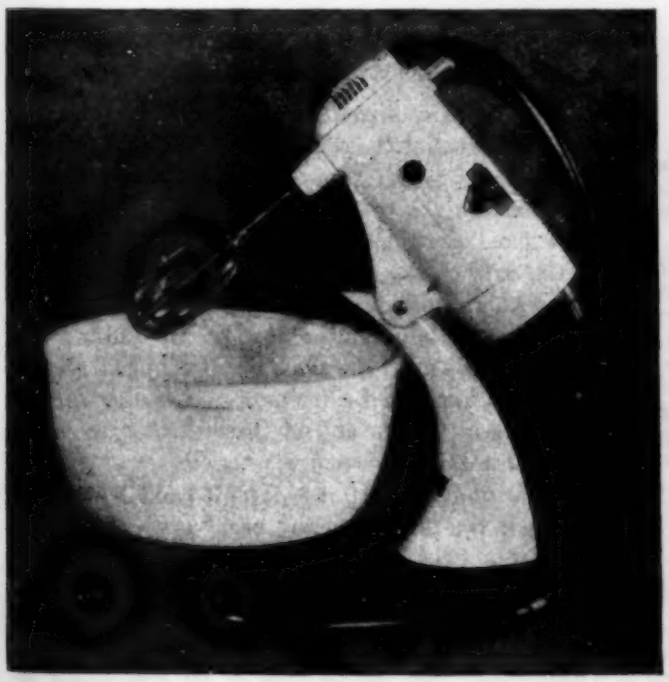
Interview a dozen or so housewives who own electric food mixers, and you're likely to get two diametrically opposite opinions regarding the usefulness of these appliances. Some users will tell you that the mixer is one of the most useful pieces of equipment in their kitchens; that they'd be lost without its aid; that compared to a food mixer, the old egg beater and potato masher are as the horse and buggy compared to the airplane. The rest are likely to shrug their shoulders and admit that the mixer spends most of its life on the shelf collecting dust.

This wide divergence in opinion probably stems mainly from three factors: the quality of the particular mixer itself; the convenience of its location and availability in the kitchen; and the amount of cooking involving a mixer the individual housewife indulges in.

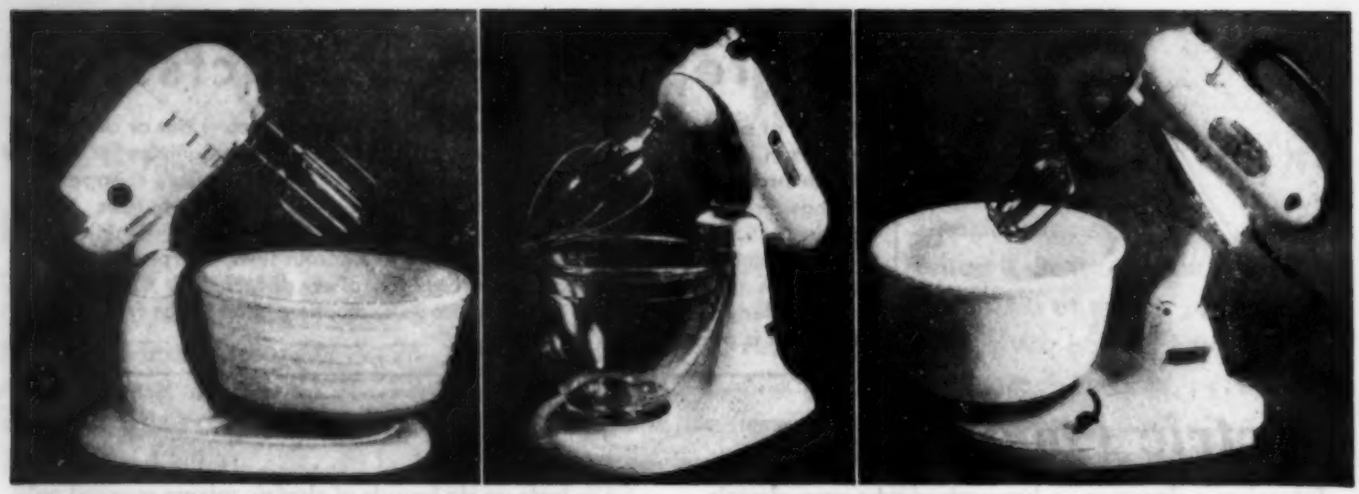
CU's tests on six brands of electric mixers covered only the first of these points, but the fact that there were major differences in effectiveness, durability and ease of operation among them was quite apparent. In all-round performance, the *Sunbeam Mixmaster* was first choice, closely followed by the *K-M Speed Mix*. The much-advertised *Dormeyer*, on the other hand, was rated "Not Acceptable" because its motor became overloaded and stalled when it was used to mix a standard refrigerator cookie batter; and because of its top-heavy construction, which gave it a tendency to tip over when it was used with the juicer attachment. The other three brands — *Hamilton Beach*, *Gilbert* and *Kitchenaid* — were rated "Acceptable" and more or less equal in over-all quality.

Before we go into a detailed discussion of the individ-

The Sunbeam Mixmaster *shown below was found to be the best of the food mixers tested, all things considered.*



The K-M *(below) ran the* Mixmaster *a close second and was also judged to be a "Best Buy" in food mixers.*



Left to right are shown the Gilbert, *the* Kitchenaid *and the* Hamilton Beach. *They were judged "Acceptable," and of approximately equal over-all quality, though not as good as the "Best Buys" — the* Sunbeam Mixmaster *and the* K-M.

ual mixers, a recapitulation of the circumstances under which a kitchen mixer can be a real asset to the housewife may be worthwhile.

As has been mentioned, the availability of the mixer for use when needed is important. This means, in effect, that the mixer should be permanently located at some convenient spot in your food preparation area. If you have to take it off a shelf or out of a cupboard, set it up and plug it in each time you need it, chances are that it will fall into disuse very soon after the novelty has worn off.

The second point involves the question of whether for your type of cooking, you need or want a mixer. The fact is that no food mixer will help you broil a lamb chop or peel the potatoes, if you have to whip up a quick supper. Furthermore, a mixer leaves a great deal to be desired if you try to use it as a slicer, shredder, pea sheller, can opener, coffee grinder, buffer or any other of an elaborate list of advertised uses. But a good mixer can do an excellent job and save you a great deal of energy in any food preparation involving prolonged beating or mixing. It can mix doughs and batters for breads, cakes, cookies, pancakes or waffles; it can beat mashed potatoes smoother and fluffier than most people manage to do by hand; it can be used to whip cream and beat egg whites stiff; to smooth lumps out of sauces and other mixtures; to make malted milks and other drinks; to produce salad dressings and cake icings. In addition, all mixers are equipped with an orange juicer attachment.

Once you have determined that a food mixer has a place in your kitchen, the question is which one to buy.

CU's tests of the six brands its shoppers were able to find in the stores involved safety (shock hazard, tendency to tip over in use, and absence of sharp projections), effectiveness for mixing and juicing, convenience in use, and durability.

The mixers were tested for shock hazard under both normal and high-humidity conditions, and also after the mixers had been run until they attained maximum temperature. None of them failed in this test. All were constructed in such a way that they would not be likely to tip over during the mixing operation, but the *Dormeyer* was found to be very top-heavy when its juicer attachment was in position. Whereas on the other mixers tested the orange juicer was connected to the gear assembly through a separate power take-off, on the *Dormeyer* the connection was made by up-ending the motor on the stand and connecting the juicer to the same power take-off which drove the beaters. In this position, the *Dormeyer* tended to tip over in operation. None of them had sharp projections which would be likely to injure the hands or clothing.

All the mixers tested except the *Kitchenaid* utilized a glass bowl on a freely rotating platform as the receptacle for the material to be mixed. In one way or another, the beaters could be set at the center of this bowl, at its side, and in some cases, at an intermediate position in between. On the *Sunbeam*, the *K-M* and the *Dormeyer* there were two fixed positions for the mixer, at the center and at the side of the bowl. The *Hamilton Beach* was provided with an adjustable bowl platform which could be set at any point between the side and the center of the bowl, and on the *Gilbert* the same result could be accomplished by moving the beater-motor assembly to any position in the bowl. On any of these mixers, the bowl revolved automatically when the beaters were in an off-center position and the bowl contained a heavy enough batter to give the beaters some "grip." As a result, the batter all around the bowl could be beaten equally.

On the *Kitchenaid* the bowl was fixed, but as the beater rotated, it also revolved around the center of the bowl, and the planetary motion so produced accomplished about

the same effect as a revolving bowl. But this arrangement had the disadvantage that the motor and beater assembly could not be removed from the stand, as could the beaters of the other food mixers; consequently, the housewife could not use the *Kitchenaid* at the stove for such jobs as beating boiled icing or whipping mashed potatoes while keeping them warm.

Each mixer was put through four tests for effectiveness: mixing malted milk, preparing sponge cake batter, preparing refrigerator-cookie batter and juicing oranges. The *Dormeyer* failed because of instability. And in the preparation of the standard refrigerator cookies, the motor became overloaded and the mechanism stalled, so that manual assistance was needed to mix in the dry ingredients.

The *Kitchenaid* proved itself less efficient than other mixers tested in two operations: mixing malted milk and juicing oranges. But this inefficiency was not deemed sufficiently serious to render the mixer "Not Acceptable," since its operation was good in other mixing tests.

The best mixer in over-all efficiency was the *Sunbeam Mixmaster;* its only discernible fault was a tendency to spatter the ingredients when it was used to mix malted milk. The *K-M* ran a very close second. The other three brands were about equal to one another in efficiency.

Many factors affect convenience, and CU's tests and examinations were designed to cover as many as possible of those which are important to the housewife.

Motor and beaters were detachable on all except the *Kitchenaid*, so that the unit could be used apart from the stand. The weights of the detachable sections were 5 to 5½ pounds on all except the *Gilbert*, on which the weight was 6¾ pounds. All the mixers were provided with rubber feet, so that they would not mar table tops. All had easily-removable beaters; on the *Sunbeam* there was an ejection mechanism which simplified their removal still more. All were easy to clean, though the single-rod attachment of the *Hamilton Beach* might offer some difficulty at first. On the *Sunbeam* and the *Hamilton Beach*, there was no provision for adjusting the height of the beaters in the mixing bowl; the others were provided with raising or lowering devices for this purpose. A special mixing bowl was required only for the *Kitchenaid;* on the others, any ordinary bowl or pot could be used if desired. Different types of regulators were provided to vary the speeds of the beaters, ranging from the three-position adjustment of the *Dormeyer* to the 16-speed adjustment of the *Gilbert*. Some of the mixers have the further convenience of an indicator giving the proper speeds for various uses directly on the control. All the mixers were supplied with beaters and orange juicers; the *Hamilton Beach* also had a drink mixer supplied. Additional accessories were available for all except the *Dormeyer* and the *K-M*.

All the mixers were operable on either a-c or d-c; all had easily replaceable motorbrushes; and all had the approval of Underwriters Laboratories for safety. The electric cords supplied with the mixers varied in length from 5¼ to 6 feet. None was considered excessively noisy.

Life tests, to determine durability, were made on all the mixers. In these tests, the mixers were put to work on a standard mixture of lubricating oil and sawdust, with a 5-minute "on" and a 15-minute "off" cycle, until a total of about 500 hours of net running time had been accumulated. This would amount to something over five years of use at the rate of about 15 minutes a day. Brushes were replaced as needed. At the end of the test period, the mixers were examined for wear and failure of parts.

At the end of the test period, the *Sunbeam Mixmaster*, the *K-M*, the *Hamilton Beach* and the *Dormeyer* were still in operating condition; the *Gilbert* failed after the equivalent of about 3½ years' use and the *Kitchenaid* after 4 years.

The ratings below represent a consideration of all the factors discussed. Two samples of each mixer were tested. Prospective buyers are urged to read the detailed descriptions above in addition to the ratings, since the ratings give only summaries of the outstanding characteristics.

best buys

■■—SUNBEAM AUTOMATIC MIXMASTER Model No. 7B (Chicago Flexible Shaft Co., Chicago). $34.75. Removable motor (5½ lb.). Two beaters, automatically ejected; two-position bowl adjustment. Easy to clean. Ten speed settings with recommended uses for each marked on speed selector; speed selector in rear of motor but convenient. Additional attachments available for special uses. Six ft. cord. Mixing efficiency in batters and malted milk excellent; juice extraction excellent. Lasted for the full period of the life test.

■■—K-M Model No. 9-500 (Knapp-Monarch Co., St. Louis). $29.95. Removable motor (5¼ lb.). Two beaters, easily removable; two position bowl adjustment. Easy to clean. Ten speed settings on speed selector; speed selector in rear of motor but convenient. No additional attachments available. 5¾ ft. cord. Mixing efficiency in batters good; malted milk mixing and juice extraction excellent. Lasted full life test.

continued next page

The Dormeyer *was judged "Not Acceptable" because it could not mix heavy batters and because of its tendency to tip over.* ▶

acceptable

■■—SUNBEAM AUTOMATIC MIXMASTER (see "Best Buys").

■■—K-M (see "Best Buys").

■—HAMILTON BEACH Model No. E (Hamilton Beach Co., Racine, Wis.). $34.75. Removable motor (5½ lb.). Two beaters, easily removable; all-position bowl adjustment; beaters slightly more difficult to clean than other beaters tested. Fifteen settings on speed selector; speed selector conveniently located in front of motor. Additional attachments available for special uses. 5¼ ft. cord. Mixing efficiency in batters and malted milk good; juice extraction good. Lasted full life test.

■—GILBERT FOOD MIXER Model No. B-29 (A. C. Gilbert Co., New Haven, Conn.). $39.75. Removable motor (6¼ lb.). Two beaters, easily removable all-position beater adjustment; easy to clean. Sixteen settings on speed selector with recommended uses for each marked nearby; speed selector in rear of motor but convenient. Additional attachments available for special uses. 5½ ft. cord. Mixing efficiency on batters and malted milk excellent; juice extraction excellent. Lasted equivalent of about 3½ years in life test.

■—KITCHENAID Model No. 3-B (Hobart Mfg. Co., Greenville, Ohio). $47.50. Motor not removable because of planetary action design. Beater, easily removable; planetary action makes beater or bowl position adjustment unnecessary. Easy to clean. Ten settings on speed selector with recommended uses for each marked nearby; speed selector on top of motor but convenient. Additional attachments available for special uses. 5¼ ft. cord. Mixing efficiency for batters good; malted milk mixing and juice extraction relatively poor. Lasted equivalent of about 4 years in life test.

not acceptable

○—DORMEYER Model No. 3000-A (Dormeyer Corp., Chicago). $24.95. Mixing of cookie batter overloaded and stalled motor. Required considerable manual assistance in mixing flour and raisins into heavy batter. Top-heavy and tended to tilt when used as juicer.

Cameras

a critical appraisal of what is available in a variety of brands, models and price ranges

Ratings of 13 cameras of many types were published in the November issue of *Consumer Reports*. Tests of many additional cameras have brought to light few that are in any way outstanding. The new tests covered a wide field ranging from the flock of $2.50 to $6 miniatures to the $262 *Kodak Medallist II*. Included in the test were the 16 mm. *Whittaker Micro 16* camera and several 35 mm. cameras intended to fill the hiatus left by the disappearance from the market of the *Leica* and the *Contax* (at prices few amateurs can afford).

The *Kodak Reflex*, a recently-introduced twin-lens camera which has aroused a good deal of interest among photographers, was found to be generally excellent. It was well made, simple to use, and the lens of the sample tested, while not of the quality of a good Zeiss *Tessar*, was still very good. Insofar as the lens is concerned, the *Kodak Reflex* was superior to the *Ciroflex*, which was given top rating among twin-lens reflex cameras in the November report. Whether or not the difference in lenses found in the samples tested is typical, however, CU believes that the *Ciroflex* is a better buy for most amateurs, provided they can solve its difficult loading. Not only is the *Ciroflex* considerably less expensive, but its construction is such as to make its use (except for loading) more convenient.

The most expensive of the cameras tested, the *Kodak Medallist II*, can be offered as a horrible example of the sloppy inspection characteristic of so much of the current production for a market which, apparently, is ready to gobble up practically anything. The *Medallist II* is offered as a precision camera with a fine range finder to permit accurate focusing, and with numerous adjustments to help the exacting photographer get just exactly the picture he wants. This is the camera, one is told, that was extensively used by Navy combat photographers during the war. But the sample purchased by CU for test had been shipped out of the factory with the range finder and lens unsynchronized, so that the most carefully focused pictures taken with this beautiful precision instrument came out a blurry mess. Reports which have come to CU from Navy and other photographers who have used the *Medallist II* are contradictory. Some photographers love the camera; others curse it. The distinctive feature of the *Medallist II* is that it takes 2¼ × 3¼ inch pictures with a camera body that is in most respects an overgrown version of a 35 mm. camera. The lens of the sample tested was very good, and the camera turns out excellent work when properly adjusted.

None of the three 35 mm. range-finder cameras tested could be considered a good buy. These were the *Clarus MS–35*, selling for $122.75; the *Vokar I*, selling for $85.95; and the *Perfex 55*, selling for $91. The film transport mechanism gave trouble in all three of these cameras, and the first two became completely inoperable because of defective film transport mechanisms. The film transport showed a tendency to stick in one of the two *Perfex* cameras tested. In one of the *Perfex* cameras, the motion of the shutter was occasionally so jerky as to cause light and dark stripes on the film.

CU believes that the *Kodak 35* with Range Finder and Flash Kodamatic Shutter, which was rated in the November *Reports*, is, despite its lack of a focal plane shutter and the high speeds that go with it, a much better buy than any of these 35 mm. cameras. One 35 mm. camera without range finder was included in the latest tests — the *Argus A2*. As indicated in the ratings, CU considers this camera generally unsatisfactory and a poor buy.

The much advertised newcomer to the camera market, the *Whittaker Micro 16*, is another camera likely to prove a serious disappointment to purchasers. The camera is a tiny all-metal affair which takes pictures on a strip of 16 mm. movie film. The film is mailed to the Whittaker

Company, which processes it and mails back 2½ × 3¼ inch enlargements. The camera has a fixed-focus lens and a single, slow, shutter speed. And in the slow shutter speed lies its downfall; for with the camera held in the hand, holding it steady enough to avoid some slight motion of the camera is very difficult; and when the tiny negative is enlarged about six times for the final print, the motion is magnified enough to cause a general blurring of the picture. The camera has a tripod socket, and fair prints can be made if the camera is used on a tripod. But who is going to carry around a tripod for a camera whose only virtue is its sub-miniature size?

Several Ansco cameras were included in the tests, but as previously anticipated, they were found, in general, to be inferior to their opposite numbers in the Eastman line. The *Ansco Speedex B2*, however, was found to be a quite good folding camera, taking 2¼ inch square pictures, and equipped with a fairly good f:4.5 lens.

Of all the relatively inexpensive folding cameras thus far tested, CU's clear choice for first place is the *Kodak Vigilant Six-20* which was rated in the November *Reports*. This camera has an excellent f:6.3 Anastigmat lens which is fast enough for most photographic uses and which was unexcelled for sharpness by the lens of any of the other cameras tested. For one who doesn't need the greater versatility of a faster lens, faster or slower shutter speeds (the *Vigilant* has shutter speeds of 1/25th, 1/50th, and 1/100th second) and the additional adjustments of more expensive cameras, the *Vigilant* remains an outstanding buy at $28.28.

The *Kodak Monitor* is a more versatile — and much more expensive — version of the *Vigilant*. Its f:4.5 lens is faster, but otherwise, the sample tested was not as good as that of the *Vigilant*. The range of speeds of its *Supermatic* shutter is greater, going from one second to 1/400th second. Other features not found in cheaper cameras (see rating of the *Monitor*) make this generally an excellent camera, but its price is correspondingly high. CU was able to find in the stores, only the larger-sized *Monitor Six-16* which takes 2½ × 4¼ inch pictures. The 2¼ × 3¼ inch *Six-20* is, however, understood to be identical with the *Six-16* in all respects except size.

The *Kodak Vigilant Junior* cameras as well as the *Jiffy Kodak* and several similar Ansco cameras (see ratings) were found to be essentially folding cameras with box camera lenses and shutters. Whether the convenience of a folding camera is worth the extra price is something the purchaser has to decide for himself.

▲ *The* Medallist II *at $262 was the most expensive of the cameras tested. It has many excellent features, though some users find it excessively bulky and hard to handle.*
◀ *The* Kodak Reflex *costing $120 was found to have an excellent lens, but it was found inferior to the less expensive* Ciroflex *with respect to convenience in use.*

Eight small cameras, most of which take 16 pictures, 1⅝ × 1¼ inches, on a #127 roll (*Donald Duck* takes 12 pictures, 1⅝ × 1¾ inches) were included in the tests. All had provision for one "Instantaneous" shutter speed and time exposure, and all had fixed-focus lenses having the same general characteristics. Without exception, the pictures taken with these cameras were quite sharp and clear in the center, with a marked falling off of definition toward the edges. Despite their higher price, it is CU's opinion that none of these cameras is as good as the cheaper Eastman *Baby Brownie Special*, $2.30, rated in the November *Reports*. The *Baby Brownie* takes 1⅝ × 2½ inch pictures.

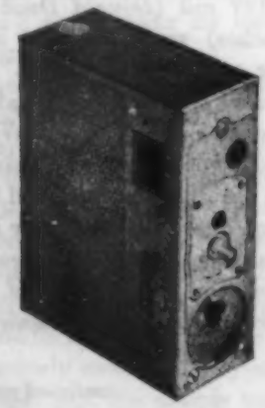
continued next page

Check Before You Buy

Because of faults in workmanship and careless inspection in the factories, the buyer — especially of an expensive camera — should check the camera to whatever extent is possible in the store before taking it out, and he should try to get a ten-day return or exchange privilege. Many reputable photographic dealers sell cameras on this basis. No matter how good one sample of a camera is, another sample of the same brand may be inoperable. Load a roll of film in the camera you want to buy and go through all the motions of taking pictures, winding the film through to the end of the roll and unloading it. If you can, actually take a number of exposures and have the film processed as a check, mainly on accuracy of focusing. If the camera has a range finder, try it at different distances to see whether the two images come together as they should. On some range-finder cameras, the two images do not meet perfectly when focused upon an object at any distance. On some cameras the adjustments are so stiff that a good deal of finger strength is required for making them. Sometimes, the adjustments just don't work. Put every adjustment on the camera through its paces to make sure it works.

The ratings which follow are based on use tests of the cameras, careful examination by a consultant, and laboratory tests of lenses and shutters. The shutter tests were limited, however, to determination of the initial accuracy of shutter markings. Only one or two samples of each camera were purchased for the tests, but in many cases the results of tests and examinations were supplemented by surveys of use experience. Ratings of cameras which were published in the November Reports, *and which are still considered outstanding buys are repeated below for the convenience of readers. Prices of most cameras have risen, and the new prices are given.*

▼ *The tiny* Micro 16 *is an interesting gadget, but its slow shutter speed, combined with the fact that the negatives need considerable enlargement, makes it "Not Acceptable" to those who want sharp pictures.*



Box type

acceptable

■ — ANSCO PIONEER PB20 (Ansco, Binghamton, NY). $6.95. Takes 8 pictures, 2¼ x 3¼ inches, on #620 roll. Fixed-focus lens. Only "Instantaneous" shutter setting. No Time or Bulb setting, hence can be used only in bright light. One fixed aperture. Optical eye-level finder. Metal body with plastic lens mount. Hand strap. Provision for synchronized flash attachment (special flash attachment, $1.95 extra). This is a modified type of box camera. For a camera of its price, it can take good pictures. *Ansco* portrait attachment can be used for closeups.

■ — ANSCO CADET B2 (Ansco). $3.45. Takes 8 pictures, 2¼ x 3¼ inches on #620 film. This is a typical box camera, generally inferior to the equivalent Eastman box camera (*Brownie Target Six-20*).

■ — BROWNIE TARGET SIX-20 (Eastman Kodak Co., Rochester, NY). $4.43. A conventional box camera taking 8 pictures, 2¼ x 3¼ inches, on #620 film. Fixed-focus lens. Two aperture settings for different light conditions. "Instantaneous" and Bulb shutter settings. Two waist-level brilliant finders. Reinforced cardboard body covered with imitation leather. Many will prefer this camera to the *Baby Brownie Special* or the *Brownie Reflex* because of its larger picture. It is a sturdy, dependable camera for those who take occasional snapshots in good light. *Kodak* portrait attachment can be used for close-ups. (Previously rated in November, 1946 *Reports*.)

■ — BABY BROWNIE SPECIAL (Eastman Kodak Co.). $2.30. Takes 8 pictures, 1⅝ x 2½ inches on #127 roll. Fixed-focus lens. Only "Instantaneous" shutter setting. No Time or Bulb setting, and only one fixed aperture. Eye-level optical finder. Plastic body. Hand strap. Suitable only for use in daylight, or with photo floods (with Super XX, or similar fast film). (Previously rated in November, 1946 *Reports*.)

■ — BROWNIE REFLEX, SYNCHRO MODEL (Eastman Kodak Co.). $8.63. Takes 12 pictures, 1⅝ x 1⅝ inches on #127 roll. Fixed-focus lens. "Instantaneous" and Bulb shutter settings. One fixed aperture. Large, reflecting, optical finder, approximately the size of negative. Takes *Kodak* lens attachment for close-up pictures. Accessory attachment for synchronized flash costs $4.03 and is simple to attach and to use. Neck strap. Plastic body with metal trim. This camera has the disadvantage of small picture size. (Previously rated in November, 1946 *Reports*.)

Folding cameras

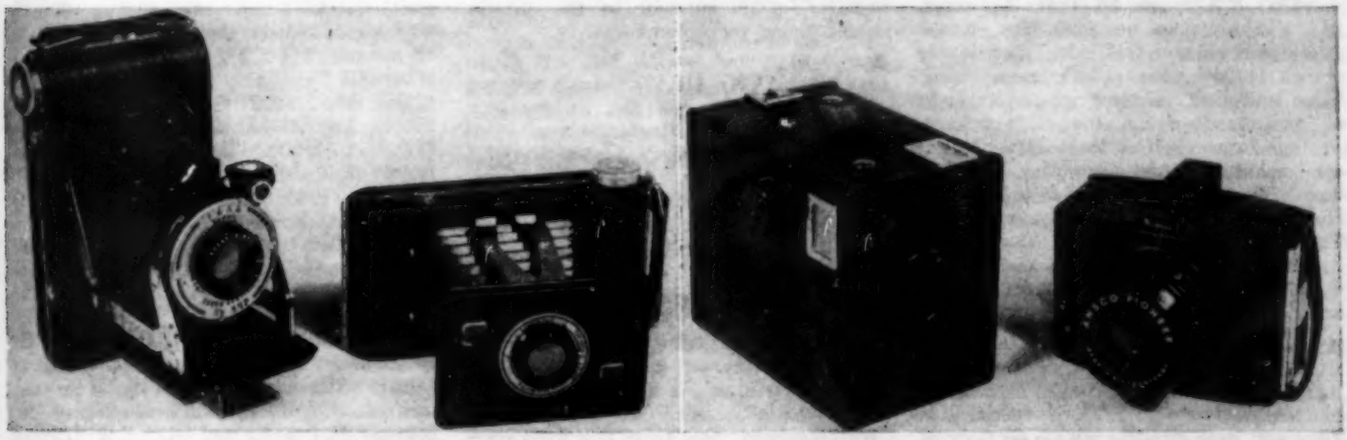
acceptable

■ — KODAK MONITOR SIX-16 (Eastman Kodak Co.). $63.85. Takes 8 pictures, 2½ x 4¼ inches, on #616 roll. *Kodak Anastigmat Special* 127 mm. f:4.5 lens. *Kodak Supermatic* shutter with 9 speeds (1 to 1/400th second) plus Bulb; Time with special cable release. Shutter has self timer. Focusing by means of milled ring on front of lens mount. Focuses from 4 feet to infinity. Optical eye-level finder with parallax adjustment on side of camera body; reflecting waist-level finder. One motion opens camera to taking position. Automatic counter and film stop. Accidental double exposures impossible. Two tripod sockets. Shutter release on body of camera. Metal body. Hand strap. Lens only fairly good on sample tested. Generally an excellent camera.

■ — ANSCO VIKING PB20 (Ansco). $23. Takes 8 pictures, 2¼ x 3¼ inches, on #620 roll. *Viking* f:6.3 Anastigmat lens. Three shutter speeds (1/25th to 1/100th second) plus Time and Bulb. Shutter release on body of camera. Provision for cable release. Focuses from 5 feet to infinity. Optical eye-level finder and waist-level finder. One motion opens camera to taking position. Metal body. Hand strap. Two tripod sockets. Lens quality in sample tested fair. A well-made, convenient camera, but pictures inferior to those taken by *Kodak Vigilant*.

continued on page 94

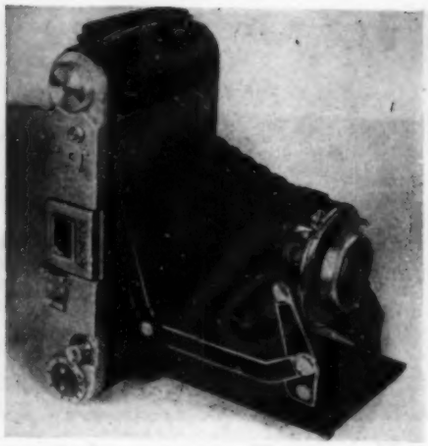
▲ *Three new 35 mm. range finder cameras, only one of which — the* Perfex 55 *— is rated "Acceptable," and that with reservations. The film transport mechanisms of all three of these cameras gave trouble, with the film transport mechanisms of the* Vokar *and the* Clarus *becoming completely inoperable. CU considers the* Kodak 35 with Range Finder (*rated in the November* Reports) *a better buy than any of these cameras if you don't need high shutter speeds.*



▲ *Two relatively inexpensive folding Kodak cameras — the* Vigilant Junior Six-20 (*left*), *and the* Jiffy Six-20. *Though the* Jiffy *lens is little better than that of a box camera, in general both cameras are sturdily built and convenient to use.*

▲ *The* Ansco Cadet B2 *box camera* (*left*) *and the* Ansco Pioneer PB20, *a modified box camera. The* Cadet *is inferior to the corresponding Eastman box camera. The* Pioneer *has a very inexpensive flash attachment.*

▼ *Three Ansco folding cameras — the* Speedex B2 (*left*), *the* Clipper PD16 (*center*), *and the* B2 Speedex Junior. *The* Speedex *is a well made and convenient camera which takes 2¼-inch-square pictures. The* Speedex Junior *substitutes a fixed-focus f:11 lens for the f:4.5 anastigmat of the* Speedex. *The* Clipper *is an inexpensive folding camera of fair quality — rated "Not Acceptable" because its back opens too easily with the consequent risk of fogging film.*



The Ansco Viking (*left*), *is a good camera, but inferior to the* Kodak Vigilant. *The design of the* Argus A2 (*center*) *doesn't allow adequate focusing at full lens opening. The* Kodak Monitor (*right*) *is a deluxe folding camera.*

■ — KODAK VIGILANT SIX-20 (Eastman Kodak Co.). $28.28; case $6. Takes 8 pictures, 2¼ x 3¼ inches on #620 film. *Kodak Anastigmat* 105 mm. f:6.3 lens. Three shutter speeds (1/25th, to 1/100th second) plus Time and Bulb. Shutter release on body of camera. Provision for cable release. Focuses from 3½ feet to infinity. Optical eye-level finder and waist-level brilliant finder. Opens or folds with two motions. Hand strap. Metal body. Two tripod sockets. This is an excellent camera, and can be recommended for almost any amateur who wants a good inexpensive camera. (Previously rated in November, 1946 *Reports.*)

■ — ANSCO SPEEDEX B2 (Ansco). $45. Takes 12 pictures, 2¼ x 2¼ inches on #120 roll. *Ansco* 85 mm. Anastigmat f:4.5 lens. Seven shutter speeds (½ to 1/250th second) plus Time and Bulb. Shutter release on body of camera. Provision for cable release. Focuses from 3½ feet to infinity. Optical eye-level view finder. Pressure on button opens camera to taking position. Neck cord. Metal and plastic body. One tripod socket. Lens quality in sample tested fairly good. Generally, a good, convenient camera.

■ — ANSCO B2 SPEEDEX JUNIOR (Ansco). $19.95. Takes 12 pictures, 2¼ x 2¼ inches, on #120 roll. Almost identical with *B2 Speedex* above except for lens and shutters. Fixed-focus f:11 lens. Shutter markings "Instantaneous" and Time. Provision for cable release. This is essentially a box camera insofar as lens and shutter are concerned. Price for convenience of folding camera high.

■ — KODAK VIGILANT JUNIOR SIX-20 (Eastman Kodak Co.). $15.01 with fixed-focus f:12.5 lens; $18.47 with *Kodak Bimat* f:11. Takes 8 pictures, 2¼ x 3¼ inches, on #620 film. Cheaper camera has shutter with "Instantaneous," Time and Bulb; other camera has two speeds (1/25th and 1/50th second) plus Time and Bulb, and focuses from 5 feet to infinity. Provision for cable release on both shutters. Eye-level frame finder and waist-level finder. One motion opens camera to taking position. Metal body. Hand strap. These are well-made, convenient cameras. The $18.47 camera was, however, much superior to the cheaper model, giving very good negatives.

■ — JIFFY KODAK SIX-20, SERIES II (Eastman Kodak Co.). $12.12. Takes 8 pictures, 2¼ x 3¼ inches, on #620 film. *Twindar* lens. One shutter speed "Instantaneous" plus Time. Two focusing positions: 5 ft. to 10 ft., and 10 ft. to infinity. Three lens apertures. Two waist-level finders. Pressure on button opens camera to taking position. Metal body. Hand strap. Lens quality similar to that of box camera. A well-made camera.

not acceptable

○ — ANSCO CLIPPER PD16 (Ansco). $9.95. Takes 16 pictures, 2 x 2½ inches, on #616 roll. Fixed-focus lens. One shutter speed "Instantaneous" plus Bulb. One fixed aperture. Optical eye-level finder. One motion opens camera to taking position. Metal and plastic body. Hand strap. Catch holding back closed opens too easily so that film may become fogged. Lens housing cuts off lower part of view in finder. This is essentially a box camera of fair quality with convenience of folding camera. "Not Acceptable" because of risk of fogging film.

Twin lens reflex cameras

acceptable

■ — KODAK REFLEX (Eastman Kodak Co.). $120.42 with case. Takes 12 pictures, 2¼ x 2¼ inches, on #620 roll. Taking lens and viewing lens 80 mm. *Kodak Anastigmat* f:3.5. Taking lens coated. Seven shutter speeds (¼ to 1/200th second) plus Time and Bulb. Provision for cable release. *Flash Kodamatic* shutter with provision for synchronized flash. Focuses from 3½ feet to infinity by means of milled ring on lens mount. Focusing magnifier in hood over ground glass. Provision for eye-level viewing. Pressure on button opens focusing hood. Two tripod sockets. Metal body. Loading and unloading very easy. Sample tested had very good lens. Generally excellent.

■ — CIROFLEX MODEL B (Ciro, Inc., Detroit). $76.98 with *Alphax* shutter; $99.46 with *Rapax* shutter. Case $7.70 extra. Takes 12 pictures, 2¼ x 2¼ inches on #120 film. *Wollensak Velostigmat* 85 mm. f:3.5 coated taking lens: f:3.2 *Wollensak Anastigmat* viewing lens. *Alphax* shutter has five speeds (1/10th to 1/200th second) plus Time and Bulb. *Rapax* shutter has nine speeds (1 second to 1/400th second) plus Time and Bulb. Provision for cable release. Focuses from 3 feet to infinity with convenient focusing knob at side of camera. Single-motion collapsible hood. Large focusing magnifier. Hood can be adjusted for direct eye-level viewing. Two tripod sockets. All metal body. This is generally an excellent camera with only one serious flaw: loading and unloading of film is difficult. If you can manage the loading and unloading without too much difficulty, the *Ciroflex* is an outstanding buy in the present camera market. (Previously rated in Nov., 1946 *Reports.*)

35 millimeter

acceptable

■ — PERFEX 55 (Candid Camera Corporation of America, Chicago). $91; case $8.50. Takes 36 pictures, 26 x 34 mm. on standard 35 mm. roll. Coated f:2.8 *Wollensak* 50 mm. *Velostigmat.* Ten shutter speeds (1 to 1/1250th second) plus Bulb; Time with special cable release. Focusing by means of milled ring on lens mount. Focal plane shutter. Coupled split-field range finder. Separate viewing window. Metal body. Automatic shutter-setting device activated by film transport. Automatic exposure counter. Provision for synchronized flash attachment. Higher speeds set by knob on top of camera; lower speeds by knob on front. Speed markings difficult to read and not reliable. Good lens and fairly good range finder in samples tested. Shutter action and film transport mechanism not reliable on one of two samples tested. The *Perfex 55* is the only one of the three new cameras of this type tested by CU which is at all "Acceptable." CU

believes, however, that if high and low speeds are not required, the *Kodak 35 With Range Finder* is a much better buy.

■ — KODAK 35 WITH RANGE FINDER AND FLASH KODAMATIC SHUTTER (Eastman Kodak Co.). $80.80; case $8.50. Takes 36 pictures, 26 x 34 mm. on standard 35 mm. roll. *Kodak Anastigmat Special* f:3.5 coated 50 mm. lens. Five shutter speeds (1/10th to 1/200th second) plus Time and Bulb. Focusing by milled disc at side of lens. Focuses from 4 feet to infinity. Coupled split-field range finder; separate optical view finder. Plastic and metal body. Automatic shutter-setting device activated by film transport. Provision for cable release. Indicator shows whether shutter is cocked. Automatic exposure counter. Accidental double exposures impossible. Neck strap attached to camera. Built-in shielding of lens eliminates need for separate shade. Flash attachment $7.80 extra. This is an excellent camera for the price. (Previously rated in November, 1946 *Reports*.)

■ — KODAK 35 WITH FLASH DIOMATIC SHUTTER, without range finder (Eastman Kodak Co.). $43.87; case $6.75. Operation essentially the same as other *Kodak 35*, above, except that it has no coupled range finder, has an f:4.5 *Kodak Anastigmat* 51 mm. lens and shutter speeds from 1/25th to 1/150th second plus Time and Bulb. The eye-level optical finder has a hand-set parallax adjustment. This is an excellent 35 mm. camera, price considered, and is a good buy for those who do not want to pay the price of a good range finder camera. (Previously rated in November, 1946 *Reports*.)

■ — ARGUS A2 (Argus, Inc., Ann Arbor, Mich.). $29.85 with case. Takes 36 pictures, 26 x 34 mm. on standard 35 mm. roll. Coated f:4.5 Anastigmat 50 mm. lens with two-position focusing: one for 16 ft. to 18 ft., the other 18 ft. to infinity. Four shutter speeds (1/25th to 1/150th second) plus Time and Bulb. Provision for cable release. Shutter speeds on sample tested inaccurate. Plastic shutter blades must not be exposed to excessive heat. Automatic exposure counter. Eye-level view finder. Plastic body with metal trim. Has built-in, extinction-type exposure meter. Lens must be pulled out for picture taking. Maximum aperture too large for satisfactory results with this type of focusing. Lens on sample tested fairly good, but pictures taken at less than 10 ft. at full lens opening were badly out of focus.

not acceptable

○ — CLARUS MS-35 (Clarus Camera Manufacturing Co., Minneapolis). $122.75 with case. Takes 36 pictures, 26 x 34 mm., on standard 35 mm. roll. Coated f:2.8 *Wollensak Velostigmat* 50 mm. lens. Six shutter speeds (1/25th to 1/1000th second) plus Bulb; Time with special cable release. Focal plane shutter. Coupled split-field range finder. Separate viewing window. Metal body. Automatic shutter-setting device activated by film transport. Automatic exposure counter. Focusing by means of milled ring on lens mount. Range finder on sample tested poorly adjusted and not synchronized with lens. Automatic film counter could not be set to zero. Film transport became inoperative with second roll of film used. Camera was sent to manufacturer for repair, but was returned in same inoperable condition. Camera bulky and heavy.

○ — VOKAR I (Vokar Corporation, Dexter, Mich.). $85.95 with case. Takes 36 pictures, 26 x 34 mm., on standard 35 mm. roll. Coated f:2.8 *Vokar* 50 mm. Anastigmat. Eight shutter speeds (1 second to 1/300th second) plus Bulb; Time with special cable release. Single window range finder and viewer; coincidence-type range finder. Focusing by means of milled ring on lens mount. Metal body. Automatic shutter-setting device activated by film transport. Automatic exposure counter. Range finder did not operate smoothly. Film transport would not operate in either of two samples tested. Camera must therefore be rated "Not Acceptable."

Inexpensive miniatures

The following cameras (except the Donald Duck) *all take 16 pictures, approximately 1⅝ × 1¼ inches, on #127 film. All have fixed-focus lenses, "Instantaneous" and Bulb shutter settings (the marking on the shutters is "Time," but the shutters remain open only while releases are held down). All have eye-level finders, except the* Clix-O-Flex, *which has a large, reflecting waist-level finder. The contact prints and small enlargements from negatives made with these cameras are generally of acceptable sharpness except around the edges. CU believes that none of these cameras are as good buys for those who want a small, inexpensive camera as the various* Brownie *cameras (see ratings). However, those at the head of the list were found to be reasonably good cameras, price considered.*

■ — CLIX-O-FLEX. $5.95. Large, reflecting finder.

■ — FAULTLESS. $4.50. This and the following cameras all have eye-level finders.

■ — FALCON DE LUXE. $4.98.

■ — FALCON. $3.98.

■ — CLIX-DE-LUXE. $2.95.

not acceptable

○ — ACRA. $2.59. Red windows fell out.

○ — CHAMPION. $3.95. Back came off too easily.

○ — DONALD DUCK. $2.98. Takes 12 pictures, 1⅝ x 1¼ inches, on #127 film. Back held on by friction; and came off too easily.

2-1/4 x 3-1/4 range-finder camera

acceptable

■ — KODAK MEDALLIST II (Eastman Kodak Co.). $262.50; case $15. Takes 8 pictures, 2¼ x 3¼ inches, on #620 roll. Coated f:3.5 *Ektar* 100 mm. lens. Flash *Supermatic* shutter with 9 shutter speeds (1 to 1/400th second) plus Bulb; Time with special cable release. Focusing by means of milled ring on lens mount. Focuses from 3½ feet to infinity. Coupled split-field range finder. Separate viewing window immediately above range finder window, so arranged that clear view can be seen conveniently through both range finder and viewer simultaneously. Film transport automatically sets shutter. Separate shutter-cocking lever for intentional double exposure and for use with accessory ground-glass back. Automatic exposure counter. Hyperfocal scale with automatic distance indicator on body of camera. Provision for synchronized flash. Shutter release on top of camera. Red spot shows when film must be wound before another picture is taken. All metal body. Neck strap. Lens in sample tested good, but poor synchronization between lens and range finder resulted in out-of-focus pictures. "Acceptable" with proper synchronization of range finder. This camera has many excellent features, but some persons would find it excessively heavy and bulky.

16 millimeter camera

not acceptable

○ — MICRO 16 (Wm. R. Whittaker Co., Hollywood, Calif.). $29.50. This is a tiny camera, measuring 2¾ x 2⅞ inches, which takes 12 or 24 pictures, ½ x ⅜ inch, on 16 mm. film. Film in special container is supplied only by manufacturer of camera, and price of film at retail stores ($1 for 12-exposure roll) covers processing of film and one 2½ x 3¼ inch enlargement from each negative. Exposed film must be mailed in special container provided with the film to Whittaker Co. in Hollywood. The camera has a fixed-focus lens with 3 apertures marked "Bright," "Dull," and "Color." Shutter has only one speed, with no Bulb or Time setting. Waist-level finder is poor optically and very difficult to use with camera in vertical position. Camera is all-metal. Automatic exposure counter. One tripod socket. Because of slow shutter speed and necessary enlargement of negative, it is difficult to hold camera steady enough to get sharp pictures. If camera is used on tripod or is otherwise well braced, it can give negatives which enlarge to fair box camera quality. This camera is of interest only as a novelty.

Several other postwar camera models not described in the article above were discussed in the November 1946 Consumer Reports. *Prospective buyers are advised to read both articles.*

Fisher and Scott

The large group of high-fidelity enthusiasts among radio listeners have long hoped that the industry would produce a radio receiver capable of giving nearly perfect reproduction of broadcast music — a receiver that would bring to the listener the full benefit of the faithful reproduction now made possible by frequency modulation (FM) broadcasting.

The hopes of these enthusiasts were given a boost some months ago, when *Fortune* magazine, in a survey of high fidelity receivers, hailed a newcomer to the market, the *Fisher* radio, with these words: "It reproduces the small soft tones that give depth and texture to music with a clarity and realism that are startling to owners of average instruments. It is, in fact, perhaps the only set on the market that would completely satisfy a golden ear."

CU shoppers purchased the lowest priced model ($975) of the *Fisher* radio, and this model has now been tested in CU's radio laboratory. Whatever other *Fisher* models may do, the results of the laboratory tests show that this *Fisher* radio is not what either *Fortune* or the manufacturer promised. In both laboratory and listening tests it was found that the *Fisher's* tone quality was not good enough to realize the full high-fidelity advantages of FM broadcasting. Furthermore, both laboratory tests and listening tests showed the FM section of the *Fisher* to be much inferior to that of the *Scott* radio on which CU reported in the September 1946 issue.

The *Scott* radio, which at the time of CU's report, sold for $1007.25, now sells for $1175. Despite its excellent tone quality, however, even the *Scott* was not the listener's dream come true. It had a record changer, the British-made *Garrard*, RC 60/D16 with crystal cartridge which was "Not Acceptable," and the radio section was equipped with switches which, in the sample tested, broke down and put the radio out of service completely for a few weeks at a time until repairs could be made.

The record changer with which the *Fisher* was equipped was the Webster 70. This is an excellent record changer; in fact, it is the best of all the record changers which CU has thus far tested. Even here, however, reality does not come up to the claims. According to the *Fortune* survey, "The record player (of the *Fisher* radio) is equipped with a light-weight, wide-range pickup, capable of reproducing frequencies up to 12,000 cycles without bothersome noise." Still another report on the *Fisher*, this one in *Time* magazine, said, "The *Fisher* phonograph has a range so wide (20 to 12,000 cycles) that it can reproduce almost all sounds within the span of human hearing." CU's laboratory tests, however, showed that about 8000-cycle tones were the highest that the phonograph in the *Fisher* could reproduce adequately. And, although 8000 cycles is very good reproduction for a phonograph, it is far from the promised perfection.

The *Webster* changer in the *Fisher* is, however, undoubtedly superior to the *Garrard* in the *Scott*. The *Garrard* gave fairly good fidelity, but its construction was such that it caused very bad wear on both records and needles. Furthermore, there was no provision for manual operation; and the motor would not restart by itself if turned off during the changing cycle.

High fidelity response

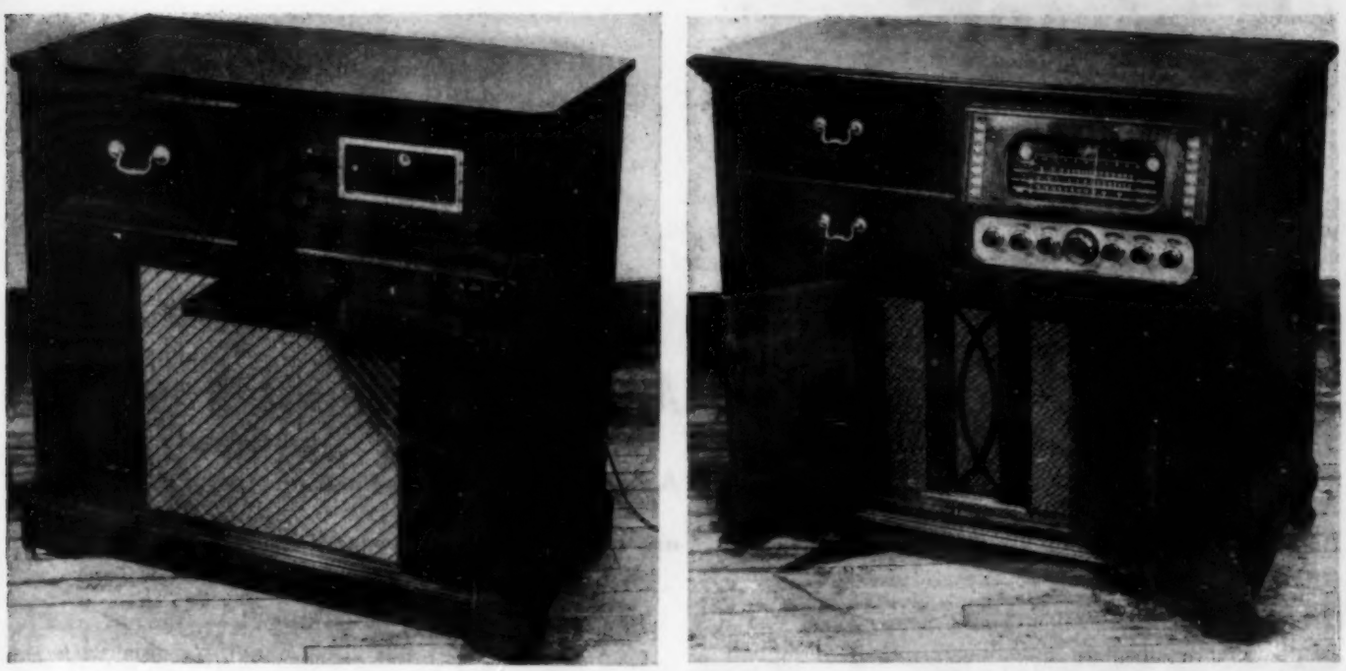
The main difference between an ordinary radio and a high-fidelity radio lies in their relative abilities to receive the very low- and the very high-pitched tones. Every radio which goes through the complete radio tests in CU's laboratory, is checked for "frequency-response" with an instrument which automatically draws a curve showing the relative intensity of the sounds coming out of the loudspeaker for the range of tones from 20 cycles (the lowest-pitched) to 20,000 cycles (the highest-pitched). The average AM console radio is found, in this test, to have an effective frequency response ranging from about 60 to about 6000 cycles. Not only the range of tones is important, but also the relative intensity of the high- and low-frequency ends of the range. At 5000 cycles, the *Scott* response to a standard FM "signal" was 7 loudness units (decibels) higher than the *Fisher*, and at 10,000 cycles, the *Scott* response was 10 decibels higher.

For ordinary AM broadcasts, the frequency response of the *Scott* was flat for a greater range at the high frequency end than the *Fisher*. Whereas the response for the *Scott* was substantially flat up to 5400 cycles, the *Fisher* started to drop off at 4400 cycles. At 5000 cycles the response of the *Scott* was 7 decibels higher than the *Fisher*.

On both AM and FM, at the low frequency end, with the tone controls on the two radios set to give the "flattest" response, the *Scott* reproduced as low as 50 cycles (10 decibels down) while the corresponding response of the *Fisher* was only 60 cycles.

Neither the *Fisher* model nor the *Scott* model which CU tested had the "multicellular" horn-type coaxial speaker which has been the subject of a great deal of advertising. Both radios were equipped with conventional 15-inch "coaxial" speakers. (The coaxial type of speaker has a second very small speaker mounted centrally in the cone of the large speaker.) A multicellular speaker is available in either the *Fisher* or the *Scott* at extra cost. In CU's opinion, such a speaker would result in some improvement in tone quality in both radios.

Tone is not the only factor which determines the overall quality of a radio, though in high-fidelity radios it is by far the most important factor. How the *Fisher* compared with the *Scott* in other respects can be seen from the following detailed ratings of the *Fisher* and the *Scott*.



The $975 Fisher (left) is still a far cry from the listener's dream come true, as is the $1175 Scott shown at the right.

■ — FISHER Model C-101 (Fisher Radio Co., NYC). $975. Twenty-three tubes including two rectifiers and one tuning eye. Mahogany-finish cabinet with controls behind fold-down panel. Slide-out record changer. Very effective separate treble and bass tone controls. No shock hazard; no short-circuit hazard. Screws on the support arm of the front cover panel pulled out shortly after radio was received. No external pilot light to indicate that set was on when panels were closed. For a-c operation only. No push-buttons.

FM Section: Good tone by ordinary standards but not "high fidelity." Excellent volume, fairly high usable sensitivity, satisfactory interference rejection, good static suppression. Tuning eye. Had only the standard (100 mc) FM band.

AM Section: Good tone, excellent volume, fair usable sensitivity, very good automatic volume control, good interference rejection, excellent adjacent-channel whistle rejection. Tuning eye. Selectivity control and heterodyne filter (to reduce steady high-pitched whistle caused by a station on an adjacent channel). Single, crowded short-wave band covering 16- to 49-meter broadcasts.

Phonograph: Webster 70 record changer with Astatic Nylon 1-J cartridge. Played 12 ten-inch records or 10 twelve-inch records or 10 to 12 records intermixed. Played warped records satisfactorily. Automatic shut-off after last record. Had switch for manual operation. Weight at needle, 1.5 oz. (light). Little record wear. On sample tested, turntable speed was correct (exactly 78.26 r.p.m.), not adjustable; regulation excellent (speed same regardless of number of records or position of needle). Starting position of pickup adjustable from top of changer. Changing cycle time, 5 seconds (average); practically inaudible operation during changing cycle, but record drop audible. Good fidelity. Practically inaudible needle talk (sound coming directly from the needle, not from loudspeaker). To replace needle, cartridge must be removed, and this is rather difficult to do. The only home changer tested on which the idler driving wheel was not in contact with turntable when machine was not in use (prevents thumps from flat spots on rubber drive wheel). Loading and unloading with records somewhat inconvenient because spindle has to be removed.

■ — SCOTT 800-B (Scott Radio Laboratories Inc., Chicago). $1175. Twenty-four tubes including two rectifiers, one voltage regulator and two tuning eyes. Mahogany-finish cabinet with slide-out control panel. Slide-out record changer. AM-FM changeover switch broke down in use. Separate treble and bass tone controls. Slight shock hazard but no short-circuit hazard. A-c operation only.

FM Section: Very good tone, excellent volume, fairly high usable sensitivity, satisfactory interference rejection, good static suppression. Tuning eye. Three motor-driven push-buttons. Had only the standard (100 mc) FM band.

AM Section: Good tone, excellent volume, fair usable sensitivity, very good automatic volume control, fairly good interference rejection. Tuning eye. Nine motor-driven push-buttons. Selectivity and sensitivity controls. Single crowded short-wave band covering 16- to 49-meter broadcasts.

Phonograph: Garrard RC 60/D16 record changer with Astatic 75 crystal cartridge. Played 8 ten-inch records or 8 twelve-inch records or 8 records intermixed. Automatic shut-off after last record. No provision for manual operation. Weight at needle 1.5 oz. (light) but extremely bad record and needle wear resulting from side pressure on needle by the mechanism. Adjustable speed. Changing cycle time, seven seconds (rather slow). Fairly good fidelity. Inaudible needle talk. Motor would not restart without a push on the turntable if turned off during changing cycle. Audible "wow" in sample tested. Clearance of drawer inadequate for changer; drawer jammed if closed with changer arm in "up" position. Pickup arm rest poorly designed.

Magnetic Recorders

A discussion, based on test data, of two recorders which use the recently-developed magnetic recording principle

Magnetic recorders which would make ordinary phonograph records obsolete have been talked about for a long time. Whether or not magnetic records will replace the phonograph discs, at least in the coming few years, is open to question. In any case, however, the first magnetic recorders to be offered for home use are now on the market. CU has purchased and tested two of these, the Brush *Soundmirror* and the Brush *Mail-A-Voice*.

As compared with ordinary home recording devices, the *Soundmirror* provides a simple means of making records of excellent quality. Its price — $229.50 — is high, however, and its disadvantages for ordinary home recording, in which a permanent record is desired, are many. But as a means of making a temporary record of radio programs and other uses it opens up a new field.

The *Soundmirror* records on a narrow paper tape having a magnetic coating on one side. The reel of tape provided with the *Soundmirror* makes a continuous one-half-hour record. After the record is made, the tape is rewound and then played on the same instrument. It can be kept as a permanent record and played any number of times, being rewound after each playing. Or — and herein lies its great advantage — the tape can be used over and over for new recordings, the old recording being automatically "erased" as a new recording is made. The cost of a new half-hour reel is $2.50, about the same as the cost of six 10-inch home-made records, which run for about the same length of time.

A microphone is supplied with the *Soundmirror*, and recordings may be made through the microphone or, for radio recording by connection directly to the radio.

The *Mail-A-Voice*, which sells for $49.50, makes a three-minute record on a 9-inch paper disc coated with magnetic material. The records produced are of generally poor quality, but speech recorded on them is clearly intelligible, and some persons may find in the *Mail-A-Voice* an interesting and useful gadget. Erasure and re-recording on the same discs is not possible with the *Mail-A-Voice*. As suggested by the name, the discs are thin and flexible enough so that they can be folded and inserted into an envelope for mailing to someone else who, presumably, would play them on his own *Mail-A-Voice* machine. Records cost $1.45 for 20.

Magnetic recording is not new, except on the consumer market. It has been used successfully during the war, and for specialized uses since the war. The Norman Corwin "One World" series of broadcasts, for example, features the playing of magnetic recordings of on-the-spot interviews with people of various countries.

The first magnetic recordings were on fine steel wire, and some of the recorders now being prepared for the consumer market use wire. Others, like the *Soundmirror*, use tape coated with magnetic material. Sounds are transformed into electrical currents by a microphone, and the electrical currents are amplified and used to set up a magnetic field which impresses a magnetic record on the wire or the tape. When the recording is played, the varying magnetic field in the wire or the tape sets up small electrical currents in the pickup head which are amplified and then transformed back into sound through an ordinary radio loudspeaker. To "erase" a recording, it is only necessary to neutralize the magnetic field in the wire or the tape.

As compared with ordinary blank disc records, a tape recorder has a number of advantages for home recording. No experience is required to record successfully, and anyone who can learn to push the right buttons can do it easily. There is no bother with cutting-needles or with adjusting the depth of cuts, as there is with ordinary recording, and there are no chips or shavings to clear away. The recording, furthermore, is of very much higher quality than can be made with the ordinary non-

professional record-making equipment sold for home use. There are no needle noises or other background noises of similar intensity to mar the recorded sound. If it is desired to keep the magnetic record as a permanent recording, it can be played hundreds of times without damage, and not the limited number of times the disc recording can be played. If the tape should be torn accidentally, it is easily spliced together with a bit of Scotch tape or rubber cement. For the recording of a radio program, or the playing of a long musical composition or a speech, the half-hour continuous record offers a great advantage over the disc record.

Despite all these advantages, it is CU's opinion that the *Soundmirror* in its present form is wholly unsuited to the purposes for which the ordinary home recorder is generally used. Typically, a home recorder is used to make a permanent record of a baby's first words, or the child's first song which may take perhaps a half minute to sing; or to record a few embarrassed words spoken by various members of the family, etc., etc. With a jumble of such things on a tape which runs for a half hour, and with no convenient means by which they can be cataloged and readily found, they are not likely to provide much pleasure. In many cases they would be hopelessly lost, or accidentally and irrevocably erased.

On the other hand, the tape recordings have a large field of usefulness that cannot be touched by ordinary home recording. It is possible to record from the air a half-hour symphony or other music that one wants to hear for a second time or several times over; to keep it as long as one wishes, and then to erase it by recording something else. Furthermore, it is possible to edit programs on the *Soundmirror*. Undesirable portions such as "commercials" can be cut out with scissors, and the ends simply pasted together with rubber cement or joined with Scotch tape. When the tape is spliced in this way, the program's continuity is maintained, and there is no "crash" at the point of splicing. While recording from the air, one can listen to the program and record it at the same time. With the tape recorder one member of the family can record a program for later hearing by another member of the family who is absent. Or a program which comes on after the children's bedtime, but which they want to hear, can be recorded for them to listen to the next day. Recordings of symphonic music were not very good, but recordings of speech and songs were excellent.

Magnetic recording should prove very useful in speech and voice training, and in the study of some musical instruments. The speaker or performer hearing himself through such recording is likely, in effect, to hear himself for the first time, and to discover faults he never before suspected. If the erasure feature is used, the only cost of a temporary recording is for the electricity used by the instrument, which is less than a cent an hour.

Trade reports indicate that many magnetic recorders will appear on the market, and there is every likelihood that some of them will be much less expensive than the *Soundmirror*. Nor should it be long before radios equipped with magnetic recorders appear on the market. In the meantime, for those who can afford its high cost, the *Soundmirror* is a generally well designed and useful instrument. Its faults, and it has them, would be considered by most users to be of a relatively minor nature.

The most serious fault is that "erasure" is not complete, so that some traces of the preceding recording sometimes come through when a new recording is played. Generally, however, the traces are not loud enough to make the listener aware of them. Another fault is that a cylindrical "capstan" which turns at constant speed, and by friction against the tape, maintains the motion of the tape at constant speed, gets "slick," and allows the tape to slow down. The roughened surface is easily restored by wiping with nail polish remover (acetone). It is a nuisance, however, when slipping starts during play.

■ — SOUNDMIRROR BK-401 (Brush Development Co., Cleveland). $229.50. Magnetic tape recorder complete with *Brush* crystal microphone BA-106 on table stand, recording amplifier, one reel of tape, playback amplifier and loudspeaker. Composition case with walnut finish. Adequate tone range and balance; adequate reproduction of sibilants. Sample had some distortion and too much hum; this was not improved by servicing by serviceman sent by manufacturer's New York distributor. Frequency response claimed 100 to 5000 cycles per second; dynamic range, 40 decibels. Machine had provisions for fast winding and rewinding, but these were rather cumbersome to use. "Dubbing in" procedure, as explained in operating instructions, unsatisfactory; original program erased in course of dubbing. Erasure not quite complete on some very loud passages when recording over previously used tape; this condition was not improved by cleaning erasing head with nail polish remover as suggested. The recorder developed a slipping capstan (wheel which regulates speed of tape), and could not be played until capstan was washed off with nail polish remover — a procedure not mentioned in operating instructions. Switches provided to shut off motors automatically when tape has reached the end of the reel. No wavering of tone was noticed under any conditions. Equipment used 150 watts of electricity, costing ¾¢ per hour to operate at the rate of 5¢ per kwh. Total weight, 40 lb., much of this being contributed by three motors which are used to wind the tape forward and backward at normal and fast speeds. Despite flaws noted, the *Soundmirror* was judged a useful and generally good instrument for many specific purposes (see text).

■ — MAIL-A-VOICE (Brush Development Co.). $49.50. Records made on thin paper discs coated with a magnetic material. Nine-inch discs play for three minutes each; not reusable. Recorder housed in metal box with lid. Crystal earphone to serve as both microphone and earphone; no loudspeaker. Earphone permanently connected to box (not plugged in), makes impossible addition to three-foot cord without cutting and splicing. Recorder and playback used a small permanent spiral-grooved plastic disc as guide for pickup. The stylus on the pickup arm which followed the grooves produced a noise similar to that of a coffee grinder. Fastening very flimsy at base of pickup arm. Discs produced could not be erased and re-recorded. Good speech reproduction; bad hum. No volume control. Quality of reproduction practically unaffected by folding or tearing record.

Autos for 1947

An increase in price is the most important development in this year's models; more revisions are predicted for next year's crop.

Passenger cars, most of them designed in 1941, are pouring from assembly lines at a rate bettering 1938 production. They are now designated as 1947 models, and differ from 1946 models chiefly in having new serial numbers, which will at least identify them as later cars than their predecessors when they are traded in. In some cases, there are also perfunctory grille or ornament changes — designed to create as much obsolescence as possible without stopping the assembly lines again.

These largely out-of-date cars will cost you 50 to 65 percent more than in 1941. (Prices had already gone up about $100 in 1941, as compared with 1940.) Should you buy a "1947" — and if so, which one? Or should you "wait for '48?" And what about the 1947 *Kaiser*, *Frazer*, and *Studebaker*, which are really new postwar cars? (CU will answer this last question in a subsequent article on the *Kaiser*, the *Frazer*, and the *Studebaker* Champion.)

If you need a new car badly, and want to get one as soon as you can, use this report to supplement the May and August, 1946 auto reports. A brief recapitulation, brand by brand, follows. (Note: present price groups are not in the same order as those given in the earlier *Reports* as later models and prices are included.) Price groups, and therefore to some extent comparisons between models, are very confused; most cars are sold at a price which generally includes an overload of accessories, and these prices are almost impossible to compare. Broadly speaking, and omitting the de luxe models differing from the regular models in trim only, the following cars are competitive within the groups. They are listed in each group in order of CU's preference, with "Best Buys" in bold face type.

Group I: Chevrolet, *Ford*, *Plymouth*, *Studebaker* Champion, *Nash* 600.

Group II: Pontiac LA series, *Dodge*, *Oldsmobile* 66–68, *Hudson* 6.

Group III: DeSoto, *Pontiac* LB series, *Studebaker* Commander, *Oldsmobile* 76, *Nash* Ambassador 6, *Mercury*.

Group IV: Oldsmobile 78, *Buick* 40, *Chrysler* 6, *Hudson* 8, *Packard* 6.

Group V: Packard 120 (model 2101), *Oldsmobile* 98, *Studebaker* Commander Land Cruiser, *Buick* 50, *Kaiser*.

Group VI: Cadillac 61, *Chrysler* 8, *Buick* 70, *Frazer*.

Group VII: Lincoln, *Cadillac* 62, *Packard* Super 8.

Buick: The 70 series is excessively powerful (144 HP), uses same (GM 1942) unsatisfactory body shell as *Buick* 50 series. CU prefers the 40 series (carrying GM 1941 body), now in production and described in text below.

Cadillac: Same choice between 1941 and 1942 GM bodies as in *Buick*, model 61 being preferable to model 62. The *Cadillac* is a well-engineered car throughout, with a very fine engine, and is a "Best Buy" in its price field. But make sure it will go into your garage before you buy; model 61 is 81 inches wide and nearly 18 feet long.

Chevrolet: A "Best Buy." Can be expected to give dependable service under the most widely varying conditions. Good oil mileage, easiest car to have serviced or repaired anywhere. Minimum cold-starting wear. Very usable power characteristics.

Chrysler-DeSoto-Dodge: Same body shell on all. *DeSoto*, a "Best Buy," is very similar to *Chrysler* 6, offers a 4-speed transmission which *Dodge* does not have. (The *Dodge* Fluid Drive is valuable chiefly to save clutch wear.) *Chrysler* 8 is excessively powerful; the "Six" is preferable for normal driving. These cars have better-than-average vision, seating, brakes, and good operating economy for their size; the labor cost of performing standard repair operations is high.

Crosley: Unless this car has some overwhelming special usefulness for you, forget it. "Not Acceptable" by yardsticks of comfort and resale value.

Ford-Mercury: *Ford* 6 rates next to *Chevrolet* in the lowest-priced group, but doesn't ride as well as *Chevrolet* or *Plymouth*. For adverse road conditions (see note on 1948 *Ford* in March, 1947 *Reports*), it is perhaps a better choice than either. *Ford* V-8 is preferable only for high-speed, open-road driving. *Mercury* differs too little from *Ford* to be a good buy. Best over-hood vision available.

Hudson: Limited service facilities available, but at lowest labor costs for standard repairs. Poor over-hood vision, but both 6- and 8-cylinder models have unique features of merit — the lubrication system, safety brake and hood, large luggage space, etc. The "Eight," model 53, is a very good buy.

Kaiser Special-Frazer: Mechanically the same car, except for overdrive in *Frazer*. Good riding, simple construction, moderate power, liberal seating space, but overpriced even in today's market. (See next month's *Reports*.)

Lincoln: Unsurpassed for comfortable seating, vision and

sturdy body construction, but does not ride well enough.

Nash: The Ambassador overhead-valve "Six" is powerful and dependable. *Nash* 600 (same body dimensions) is on a par with *Studebaker* Champion for gas economy. Seats at good, comfortable height; rather poor over-hood vision, high labor costs for standard repairs on both models. Rated below *Studebaker*.

Oldsmobile: The 60 series uses the *Chevrolet* body shell. Model 68, 8-cylinder engine, now available — see below. The 70 series (6- or 8-cylinders) rates ahead of *Buick* if fitted with Hydramatic transmission ($143 extra). The body preference noted under *Buick* favors *Oldsmobile* 78 rather than model 98.

Packard: The Super Clipper, model 2103, is overpowered (165 HP) for normal use. Model 2101, the 8-cylinder, "120," is an able, mechanically tough, well-engineered car with excellent transmission, good clutch, roomy body, poor over-hood vision and low seats, but better headroom than *Buick* 50 and 70, and is a "Best Buy." *Packard* 6, model 2100, is less desirable unless overdrive equipped.

Plymouth: Best operating economy of the "all three" cars; gives very good service if not mistreated. Rates very close to *Ford* 6.

Pontiac: Two series, with 6- or 8-cylinder engines interchangeable, the 8-cylinder model costing $47 more. The LA series uses the *Chevrolet* body shell, has tires that are too small, but is a "Best Buy" if the seating and vision are found satisfactory. *Pontiacs* use a dependable, durable engine with iron pistons; they are engineered to stand up well in service, and have fairly low labor costs on standard repairs. Larger *Pontiacs* use same GM 1941 body as *Oldsmobile* 76, 78, *Buick* 40. *Pontiac* 28 LB a better buy than *Buick* or *Oldsmobile* without Hydramatic.

Studebaker: Champion and Commander models use same body shell, with wide but low seats, very good vision, minimum over-all outside width and height. Riding qualities and stability are outstandingly good. Slightly sluggish steering and poor rear-wheel traction on slippery roads. Champion rates below *Plymouth;* Commander, between *Pontiac* and *Oldsmobile*.

Willys: The Jeep Station Wagon has maximum utility at minimum operating cost, all steel body, overdrive, the famous Jeep engine, independent front wheel suspension. Quiet and good riding with extreme traffic maneuverability, excellent vision. Price abnormally high.

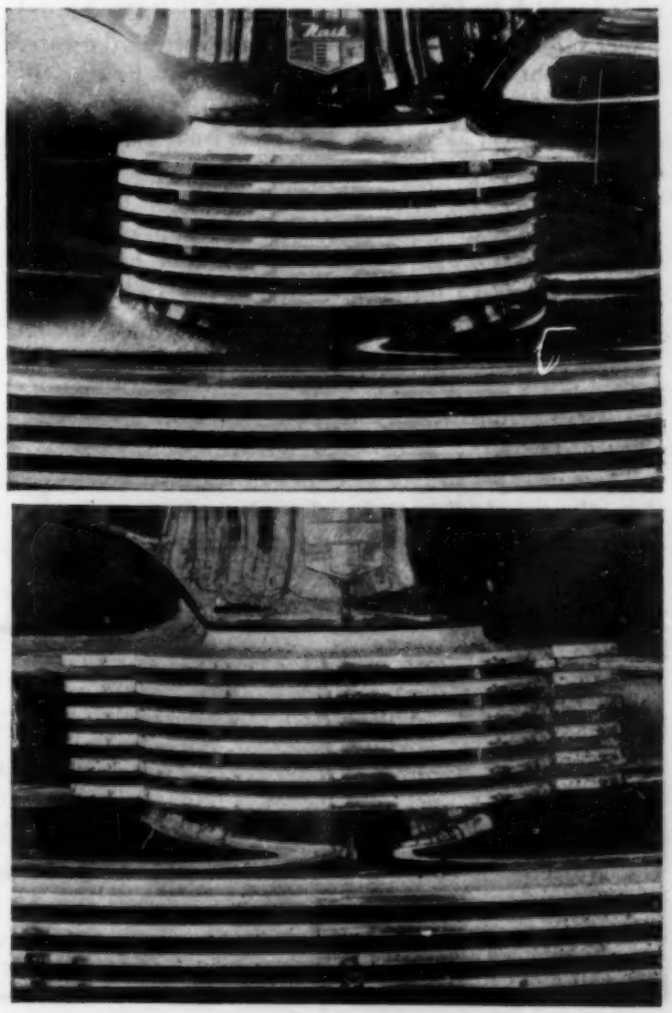
The *Buick* 40 series, the lowest-priced *Buick* line, is now in production. Like the larger *Pontiac*, it carries the GM 1941 body, with better driver vision, more comfortable seating and better headroom than the GM 1942 body shell used on *Buick* 50 and 70, *Cadillac* model 62, and *Oldsmobile* model 98. The *Buick* 40 is five inches shorter over-all than the 50 series, carries a little less weight, and is about $150 cheaper.

The *Studebaker* Commander, on which full data is now available, uses the Champion body shell with better upholstery and detail. It has a moderate over-all length (204 inches), weight (3280 pounds shipping weight), and power rating with standard axle. The Commander has generous tire capacity and brake area, and very good driver vision. The Land Cruiser model has 4 inches extra wheelbase, wider rear door, de luxe details.

Oldsmobile, for 1947, has restored model 68 to its line. This car makes use of the 8-cylinder engine in combination with the *Chevrolet* body shell, resulting in a very powerful car with a small body. The car is too heavy for the standard tires; 15x6.50 should be fitted, an extra cost option. On cars not equipped with Hydramatic transmission, use of the optional Plains (3.9 to 1) axle ratio will provide adequate power and slightly better economy.

CU expects, as car production steadies and mounts,

The grille of the 1947 Nash *600 (below) has just a little more chromium trim than that of the 1946 model (above). This is the only apparent difference between the two.*



that the out-of-adjustment cars, the poor paint jobs and hasty assemblies, which were almost the rule in 1946, will become much less frequent. In that case, the 1947 cars will — again excepting *Kaiser-Frazer* and *Studebaker* — be time-tried but outmoded transportation.

In 1948, the industry should develop real postwar models. These will almost certainly cost no more, and may cost less than the 1947 cars. When the 1948 models will appear depends in part on how long 1947's can be easily sold, but late Fall is the earliest date quoted at present.

Whether the prospective buyer who does not yet need a car too badly should wait for the new models depends on how well he likes the cars of today in comparison with what the new cars will offer him.

CU's prediction that new models would be smaller in length and width yet have more room inside has been borne out by *Studebaker* and *Kaiser-Frazer;* this size relationship will probably become a trend. The back seat of sedans is especially affected. It is about two feet less than the car's over-all width in most cars, but only a foot less in the *Studebaker* and the *Kaiser-Frazer.*

There also appears to be a trend toward better driver vision, which had been getting worse since 1939; toward larger brakes, even with lighter cars; and toward greater stability through lower cars with wide-based rims stiffening the tires against sidewise forces.

The industry, having suffered losses from the low level of operations and uncertain about "conditions," will probably spend as little money as possible in producing new models. CU therefore does not expect many new engines for 1948. *Ford's* light car plans have been abandoned; *Chevrolet's* are still on the fence; experimental cars have been built, but no production moves made. Expensively contoured fenders should disappear as bodies are widened. It is doubtful whether automatic-shifting transmissions will appear on any but the most expensive cars.

These changes add up to vehicles somewhat less lavish than the usual all-new models, minus features — synthetic upholstery fabrics, for instance, or curved glass — that tend to raise the price, and with a minimum of mechanical innovations.

There will be changes for the worse to offset the improvements. Low cars are apt to have too-low seats and shallow trunks. It is very difficult to widen the rear seat without changing the location of units. These changes tend to make the cars light at the rear, with less traction on slippery roads, although these same changes tend to make the cars ride better.

Operating economy cannot be improved very much with current engines, except through higher compression ratios, unless car weight is reduced. Reduction of weight without loss of strength or increased cost is difficult, particularly if the same heavy engine is retained — a vicious circle. Some manufacturers may attempt it for 1948; *Hudson,* for instance, has the 175 cubic-inch engine used in its lowest-priced line before the war, and could design a car around it.

Higher car prices — and no one expects a return even to 1941 levels — have two aspects. They limit the number of people who can afford to buy new cars at all, and they increase the yearly cost of ownership *unless the cars last longer.* Gestures in the latter direction were made in 1946 by some manufacturers; some rustproofing of internal body surfaces was done, more drain holes were provided, chromium plate was increased in thickness. But a thorough rustproofing job would be expensive without being (the manufacturers think) a sales feature. The same can be said of attempts to make engines last longer by providing better resistance to corrosion and lack of lubrication, common in cold weather starting and warm-up. (Not much hope can be held out for lubrication improved sufficiently to minimize these factors.)

All in all, there is not much likelihood that, even in the 1948 models, the manufacturers will provide cars with 50 percent longer lives — to match the rise in prices. This same percentage, however, is sometimes used to indicate the variation in car life attributable to the good or bad driving habits of the owners. Careful driving and conscientious maintenance of the new cars therefore will have more dollars and cents value than ever before.

Progress report

Work on the following reports, among others, is either now under way or scheduled to begin soon:

Refrigerators	**FM radios**	**Electric clocks**
Vacuum cleaners	**Scouring powders**	**Men's shirts**
Frozen foods	**Can openers**	**Hand cleaners**
Television sets	**Egg beaters**	**Laundry soaps**

Buying 2,4-D Weed Killers

CU's gardening consultant gives advice on how to buy and what to buy

The best and safest herbicide known for killing broad-leaved lawn weeds is 2,4-D. The best time to apply 2,4-D to lawns is *not* the Spring, for although weeds are easily killed then, crab grass quickly takes over the bare spots. The best time is early Fall, when grass and weeds are growing well again after the heat and drought of Summer. Then, the turf can close the gaps without competition from crab grass. All this is good horticulture, but, unfortunately, it is poor psychology, for most gardeners are far more interested in their lawns during the fine Spring weather than they are later in the season. Therefore we offer buying advice this month. If you can wait for the Fall, so much the better. Another practical reason for postponing your purchase of 2,4-D is that prices are on the way down.

Many names and prices

2,4-D is sold under many trade names, and at a wide range of prices. It appears in several different chemical forms. In powders or tablets, there are the 100% acid (not offered in small packages) and the sodium, ammonium, and morpholine salts; in liquids, there are the acid in Carbowax or other solvent, two amine salts, the morpholine salt, and various esters of 2,4-D.

For general use on lawns, the form is not nearly as important to consumers as the cost of the amount of 2,4-D actually present in the product. This amount is often hard to determine from the label, because if the label gives any information at all as to the ingredients, it may be merely the percentage of 2,4-D derivative, itself. The actual amount of 2,4-D present may be only 65% of the amount of 2,4-D derivative. A good label should state the net weight of the package, the chemical compound of 2,4-D which constitutes the active ingredient, and the equivalent percentage of 2,4-D acid in the formulation as sold. Beware of inadequately labeled products which you are expected to take on faith.

In certain cases, the chemical form does matter, since 2,4-D is more or less volatile; the morpholine and amine salts are the least volatile and the esters are the most volatile. Since the fumes of 2,4-D can kill plants not touched by the spray, small grass areas closely bordered by shrubs and flowers should never be sprayed with *Weedone*, *Weed-No-More*, or any other 2,4-D ester. Instead, use a morpholine or amine salt with care on a still and not very hot day. Ester sprays are especially dangerous to use during hot weather for the fumes may drift a considerable distance. The esters are, however, superior to other forms for killing poison ivy and other woody plants, and, unlike the water-soluble salts, they can be used just before a rain. But they are more destructive to grass, especially bent grasses. West of the Missouri River, where the dryness of the climate reduces the effectiveness of 2,4-D, the esters have a definite advantage over other forms for general use.

Among the sodium salts, those having a high percentage of 2,4-D are likely to dissolve in water more readily than lower grade materials, some of which may require warm water. Certain brands of sodium salts contain spreading agents, but the value of such spreading agents is questioned by some experts. In any case, a soap such as Lux or Ivory Snow is a satisfactory substitute for chemical spreading agents.

Use separate sprayer

Buy a separate sprayer for 2,4-D and be sure to label it. This chemical is practically impossible to wash out completely, and a minute quantity left in the regular sprayer might be enough to kill the next plants sprayed with insecticides. If you must use the same sprayer, flush it out (including hose and nozzle) with kerosene, and then three or four times with trisodium phosphate and soap, immediately after using it with 2,4-D.

For a general discussion of 2,4-D and other weed killers, see the June 1946 *Reports*. The Ohio Extension Bulletin "Killing Weeds with 2,4-D" by C. J. Willard, Professor of Agronomy, Ohio State University, Columbus, Ohio, is authoritative. There will be more information on the use of 2,4-D in later *Reports*.

(*continued next page*)

A List of 2,4-D Products

CU offers the following list, arranged in order of increasing cost of actual 2,4-D present in the product, as a practical guide for consumers. It should be understood, however, that the order is only approximate. The pound size was taken as the basis of calculation for powders, and the quart size for liquids (liquids usually contain a much lower percentage of active ingredient than do the powders). For products not sold in quart or pound sizes, the next larger size available was used, or the small size when no others could be found. This generally gives a price advantage to products which CU shoppers were able to find in larger sizes. In the calculation of the costs of 2,4-D in liquids, a pint was taken as equivalent to a pound in every case, despite slight differences in specific gravity. In view of price variations, these differences were considered unimportant. Figures in parentheses indicate the approximate cost per pound of actual 2,4-D in the product.

acceptable

■—NIAGARA 2,4-D Weed Killer (Food Machinery Corp., Niagara Sprayer Chemical Div., Middleport, N. Y.). 90% 2,4-D as the sodium salt. 20 lb. size @ $2.50 per lb. ($2.75) and 1 lb. size promised for 1947. Prices not set at time of writing, but if the price for 1 lb. is $2.69 or less, this will be the best buy in the 1 lb. size.

■—WEEDICIDE Powder (Wm. T. Thompson Co., Los Angeles). 60% 2,4-D as the sodium salt. 1 lb. size, $1.85 ($3.08); 25 lb. size @ $1.72 per lb. ($2.87).

■—WEEDEATH 70 (Howard Hanson & Co., Beloit, Wis.). 70% 2,4-D as the sodium salt. 4 oz. size, 98¢ ($5.60); 20 oz. size, $2.35 ($2.39); 10 lb. size @ $1.62 per lb. ($2.31).

■—WEED-TOX 2,4-D Powder (Vieth Chemical Co., Fresno, Calif.). 60% 2,4-D as the sodium salt. 1 lb. size, $2.10 ($3.50).

■—STANTOX 2,4-D Weed Killer Powder (Standard Agricultural Chemicals Co., Hoboken, N. J.). 60% 2,4-D as the sodium salt. 1½ lb. size, $3.15 ($3.50).

■—2,4-DOW Weed Killer Powdered (Dow Chemical Co., Midland, Mich.). 70% 2,4-D as the sodium salt. 4 oz. size, $1.40 ($8); 20 oz. size, $3.20 ($3.66).

■—WEEDANOL M1 Powder (Associated Chemists, Inc., North Collins, N. Y.). 70% 2,4-D as the sodium salt. 6 oz. size, $1 ($3.80).

■—SLAYZ WEED (Dandi-deth Chemical Co., San Diego, Calif.). 70% 2,4-D as the sodium salt, plus a spreader. 1 oz. size, 50¢ ($11.43); 1 lb. size, $2.95 ($4.21). 5 lb. size @ $2.25 per lb. ($3.21).

■—DIOWEED Powder (Bonide Chemical Co., Utica, N. Y.). 70% 2,4-D as the morpholine salt. 4 oz. size, $1.25 ($7.14); 20 oz. size, $3.75 ($4.29).

■—D-WEED CONCENTRATE (Chemo-Synth Products, Los Angeles). 40% 2,4-D as an amine salt. 6 oz. size, $1.45 ($9.65); 1 qt. size, $3.50 ($4.38). 1 gal. size, $11 ($3.44).

■—DOUBLE STRENGTH WEEDEATH (Howard Hanson & Co.). 20% 2,4-D as an amine salt. 1 gal. size, $7.08 ($4.43). 5 gal. size @ $4.89 per gal. ($3.06).

■—WEEDTOX 40 (Vieth Chemical Co.). 40% 2,4-D as an amine salt. 1 lb. size, $2.10 ($5.25).

■—WEED-NO-MORE 40 (Sherwin Williams Chemical Co., Cleveland). 32% 2,4-D as an ester. 1 gal. size, $14.15 ($5.52).

■—ESTERON 44 (Dow Chemical Co.). 37% 2,4-D as an ester. 1 gal. size $16.36 ($5.52).

■—ISO-ESTER 44 (Howard Hanson & Co.). 37% 2,4-D as an ester. 1 gal. size $16.36 ($5.52).

■—GARDEN MASTER WEED KILLER (Sears-Roebuck). 23% 2,4-D as an amine salt. Cat. No. — 71 H 1043, 8 oz. size, 69¢ ($6); Cat. No. — 71 H 1044, 1 qt. size, $2.19 ($4.77). Add shipping charges.

■—BURBANK Weed Killer Powder (Burbank Products, Los Angeles). 70% 2,4-D as the sodium salt. 1 lb. size, $4.50 ($6.43).

■—TUFOR (Naugatuck Chemicals Div., U. S. Rubber Co., NYC). 27% 2,4-D as an amine salt. 4 oz. size, 88¢ ($13.03); 1 pt. size, $2 ($7.42); 1 gal. size, $10 ($4.63).

■—WEEDOUT (Doggett-Pfeil Co., Springfield, N. J.). 20% 2,4-D as an amine salt. ½ pt. size, $1 ($10); 1 qt. size, $3 ($7.50); 1 gal. size, $10 ($6.25).

■—WEEDICIDE HI-CONCENTRATE 73 (Wm. T. Thompson Co., Los Angeles). 47½% 2,4-D as an amine salt. 1 pt. size, $4.50 ($9.49); 1 qt. size, $8 ($8.43).

■—KARMEX (Semesan Div., E. I. du Pont de Nemours & Co., Wilmington, Del.). 78.6% 2,4-D as the ammonium salt. 25 tablet size (1.9 oz. net), $1 ($10.78); 100 tablet size (7.6 oz.), $3.40 ($9.08).

■—D-WEED (Chemo-Synth Products). 12½% 2,4-D as an amine salt. 6 oz. size, 60¢ ($12.80); 1 qt. size, $2.40 ($9.60).

■—2,4-DOW Weed Killer (Dow Chemical Co.). 20% 2,4-D as an amine salt. ½ pt. size, $2.10 ($21); 1 qt. size, $3.85 ($9.63); 1 gal. size, $9.15 ($5.72).

■—WEEDEATH 10% (Howard Hanson & Co.). 10% 2,4-D as an amine salt. 8 oz. size, 69¢ ($13.80); 1 qt. size, $1.95 ($9.75); 1 gal. size, $5.33 ($6.67).

■—WEED BUSTER (George F. Hutter Co., Buffalo, NY). 4% 2,4-D. 16 oz. size, 39¢ ($9.75).

■—NAUGATUCK 2,4-D CONCENTRATE (Naugatuck Chemicals Div., Dominion Rubber Co., Montreal, Canada). 30% 2,4-D as an amine salt. 2 oz. size, 59¢ ($15.74); 4 oz. size, $1 ($13.32); 1 qt. size, $6 ($10); 1 gal. size, $20 ($8.33).

■—WEEDMASTER (Michigan Chemical Corp., St. Louis, Mich.). 10% 2,4-D as an amine salt. 1 pt. size, $1 ($10).

■—TOXOL (Glidden Co., Cleveland). 20% 2,4-D as an amine salt. 8 oz. size, $1 ($10).

■—DIOWEED LIQUID (Bonide Chemical Co.). 20% 2,4-D as the morpholine salt. 8 oz. size, $1 ($10); 1 qt. size, $4 ($10); 1 gal. size, $11 ($6.88).

■—SCOTT'S 4-X (O. M. Scott & Sons, Marysville, Ohio). 60% 2,4-D as the sodium salt. 8-gram packet, 50¢ ($50); 48-gram packet, $1.25 ($29); 240-gram packet, $3.85 ($12.56).

■—CONCENTRATE NO. 6 (Chemical Concentrates Co., NYC). 35% 2,4-D as an amine salt. 4.6 oz. size, $1.25 ($12.45).

■—WEED-DED (Lukon, Inc., Leominster, Mass.). 12% 2,4-D as an amine salt. 8 oz. size, 98¢ ($16.30); 1 qt. size, $2.98 ($12.41).

■—WEEDONE (American Chemical Paint Co., Ambler, Penna.). 9.6% 2,4-D as an ester. 6 oz. size, $1 ($27.81); 1 qt. size, $2.50 ($13), Sears-Roebuck Cat. No. — 71 H 1051, but elsewhere, $3 ($15.60).

■—DRUMCLIFF ROOT-AN-ALL (Drumcliff Co., Towson, Md.). 70% 2,4-D as the sodium salt. 3 oz. size, $2 ($15.23); 12 oz. size, $7 ($13.31).

■—WEED-NO-MORE 14 (Sherwin Williams Chemical Co.). 11.2% 2,4-D as an ester. 8 oz. size, $1 ($17.85); 1 pt. size, $1.98 ($17.70); 1 qt. size, $3 ($13.40).

■—WEEDICIDE REGULAR LIQUID (Wm. T. Thompson Co.). 10% 2,4-D as an amine salt. 2 oz. size, 25¢ ($20); 8 oz. size, $1 ($20); 1 qt. size, $2.75 ($13.75); 1 gal. size, $10 ($12.50).

■—DOW WEED KILLER TABLETS (Dow Chemical Co.). 50% 2,4-D. 2 packets, 25¢ ($29.98); 12 packets (1.6 oz.), $1 ($20).

■—WEED-B-GON (California Spray Chemical Co., Richmond, Calif.). 9.6% 2,4-D as the free acid in a solvent. 4 oz. size, 63¢ ($26.20); 1 pt. size, $1.94 to $1.98 ($20.17 to $20.59).

not acceptable

○—DANDYKILL (Plant Products Corp., Blue Point, NY). 16% 2,4-D as the sodium salt. 2 oz. size, 50¢ ($25); 6 oz. size, $1 ($16.67); 24 oz. size, $3 ($12.50). Low grade, difficult to dissolve; may clog spray nozzles.

○—WEEDANOL M1 (Associated Chemists, Inc.). 16.6% 2,4-D as the free acid in Carbowax. 6 oz. size, $1 ($16). Carbowax may clog spray nozzles in cool weather.

Canned Vegetable Soup

Different types of the same brand are not always equally well liked by tasters.

Just because you like a particular brand's recipe for tomato soup doesn't mean that you will also like that same brand's vegetable soup. As a matter of fact, the results of CU's taste tests revealed a trend in the opposite direction. *Monarch*, which received top billing on the tomato soup roster (see March 1947 *Reports*), ranked twenty-first of the 24 vegetable soups tested. *Rokeach* was sixth from the top in the tomato soup ratings and next to the last in the vegetable soup list. *Campbell's Tomato Soup* was near the bottom of the tomato soup ratings, whereas *Campbell's Condensed Vegetable-Beef Soup* was at the top of the vegetable soup list. The moral of this story is: Buy your soups according to taste preference, not brand name.

CU's taste-testing panel tested 24 canned vegetable soups. Twenty-two of these were condensed and required the addition of water; two (*Crosse & Blackwell* products) were ready-to-serve types. Sixteen vegetarian vegetable soups, five vegetable soups with beef and beef stock and three vegetable soups with beef stock were examined.

An interesting fact revealed by the flavor rating tests was that vegetable soups made with beef or beef stock were considered tastier by CU's panel of judges than were the vegetarian soups. None of the 16 vegetarian soups was considered "Good," and only four of them were considered "Fair."

How CU tested

Three different brands of vegetable soup, prepared according to manufacturers' directions, were served to a panel of 15 to 20 taste-testers twice a day — once just before lunch and again in the mid-afternoon. The brands were identified only as A, B and C and the tasters were asked to rate the flavor as "Good," "Fair," or "Poor." Statements as to the consistency of the vegetables, or any other comments, were also requested.

The opinions of the tasters as to the condition (overcooked, undercooked, or just right) of the vegetables in any brand of vegetable soup were not always in agreement. In general, however, the vegetables in all the products tested were considered to be properly cooked. Comments on the vegetarian soups were usually uncomplimentary. Some of these comments were: off flavor, peculiar flavor, thin, watery, bitter, sour, metallic, too salty, musty, etc.

Asco Condensed Vegetable Soup had the dubious distinction of being the only soup which did not receive even one rating of "Good" in 37 taste tests; it received only three ratings of "Fair" and 34 ratings of "Poor." On the other hand, *Campbell's Vegetable-Beef Soup* received only four ratings of "Poor." It was rated "Good" 24 times, and "Fair" eight times.

The cost per seven ounce serving ranged from 3¢ to 7¢. This range is wider than the ranges found in the cost of tomato soup. However, the average cost per serving of vegetable soup was only 1¢ more than that for the average serving of tomato soup. The ready-to-serve soups were more expensive than the condensed variety.

The vegetable content of the different brands showed a great deal of variation. One brand, *Heinz Condensed Beef Soup with Vegetables*, contained only four vegetables. The largest number of vegetables observed in any brand was 17 (in *Campbell's Condensed Vegetarian Vegetable Soup*). Other ingredients included were fat, macaroni products and various seasonings.

Ratings, based on the average scores of two sets of tests for each brand, are in order of decreasing score within each quality group. Differences between adjacent brands are small. Figures in parentheses represent cost for an average serving of soup (7 ounces).

good

■—CAMPBELL'S Condensed Vegetable-Beef Soup (Campbell Soup Co., Camden, N. J.). 17¢ for 11 oz. (5.4¢).

■—HEINZ Condensed Beef Soup with Vegetables (H. J. Heinz Co., Pittsburgh). 17¢ for 10¾ oz. (5.5¢).

fair

■—HEINZ Condensed Vegetable Soup without Meat (H. J. Heinz Co.). 15¢ for 11 oz. (4.8¢).

■—CROSSE & BLACKWELL Condensed Vegetable Soup with Beef (Crosse & Blackwell Co., Baltimore). 22¢ for 11 oz. (7¢).

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■—CAMPBELL'S Condensed Vegetable Soup with Beef Stock (Campbell Soup Co.). 15¢ for 11 oz. (4.8¢).

■—PHILLIPS Delicious Condensed Vegetable Beef Soup (Phillips Packing Co., Cambridge, Md.). 15¢ for 10½ oz. (5¢).

■—CROSSE & BLACKWELL Vegetable Soup with Beef Stock and Beef (Crosse & Blackwell Co.). 25¢ for 1 lb. ½ oz. (10.6¢). Ready-to-serve type.

■—SCOTT CO. Condensed Vegetable Soup (Morgan Packing Co., Austin, Ind.). 17¢ for 1 lb. 4 oz. (3¢).

■—CROSSE & BLACKWELL Condensed Vegetable Soup with Beef Stock (Crosse & Blackwell Co.). 17¢ for 11 oz. (5.4¢).

■—CAMPBELL'S Condensed Vegetarian Vegetable Soup (Campbell Soup Co.). 15¢ for 10½ oz. (5¢).

■—HEINZ Condensed Vegetable Soup with Beef Stock (H. J. Heinz Co.). 14¢ to 19¢ for 11 oz. (4.5¢ to 6¢).

■—CROSSE & BLACKWELL Vegetarian Vegetable Soup Contains No Meat or Meat Stock (Crosse & Blackwell Co.). 16¢ to 25¢ for 1 lb. ½ oz. (6.8¢ to 10.6¢). Ready-to-serve type.

poor

○—GIBBS Condensed Vegetable Soup (Gibbs & Co., Baltimore). 13¢ for 10½ oz. (4.3¢).

○—NATION-WIDE Vegetable Soup (Nation-Wide Service Grocers, Brockton, Mass.). 13¢ for 10½ oz. (4.3¢). Condensed soup. Label had no statement as to type or method of preparation.

○—GRISDALE Condensed Vegetable Soup (Gristede Bros., NYC). 13¢ for 10½ oz. (4.3¢).

○—HURFF Condensed Vegetable Soup (Edgar F. Hurff Co., Swedesboro, N. J.). 19¢ for 1 lb. 4 oz. (3.3¢); 11¢ for 10½ oz. (3.7¢).

○—PREMIER Condensed Vegetable Soup (Francis H. Leggett & Co., NYC). 14¢ for 10½ oz. (4.7¢).

○—S. S. PIERCE Condensed Vegetable Soup (S. S. Pierce Co., Boston). 12¢ for 10½ oz. (4¢).

○—WHITE ROSE Condensed Vegetable Soup (Seeman Bros., Inc., NYC). 14¢ for 10½ oz. (4.7¢).

○—JACKSON Condensed Vegetable Soup (Morgan Packing Co., Austin, Ind.). 15¢ for 10½ oz. (5¢).

○—MONARCH Condensed Vegetable Soup (Reid, Murdoch & Co., Chicago). 16¢ for 10½ oz. (5.3¢).

○—CO-OP Vegetable Soup, Condensed (National Co-operatives, Chicago). 12¢ for 10½ oz. (4¢).

○—ROKEACH Condensed Vegetable Soup — Vegetarian (I. Rokeach & Sons, Inc., Farmingdale, N. J.). 15¢ for 10½ oz. (5¢).

○—ASCO Condensed Vegetable Soup (American Stores Co., Philadelphia). 11¢ for 10½ oz. (3.7¢).

Don't Buy an Oil Burner Unless . . .

▶ CU's heating consultant gives some timely suggestions to prospective buyers of new equipment

During the past year, CU consultants have been making exacting field checkups on a large number of recently-purchased oil burners. Although there are exceptions, in general these burners are noisier, less dependable, and more wasteful of fuel than the oil burners installed before the war.

Unless he takes unusual precautions to protect himself, the homeowner who buys an oil burner today runs an excessive risk of winding up with a "lemon." In the realm of oil burners, a "lemon" is not only a poorly-designed or poorly-built oil burner . . . it is also a good burner which was installed improperly, or which is not being serviced properly.

In spite of the fact that today poorly-designed, poorly-built oil burners are more numerous than before the war, the homeowner's greatest risk still lies today, as it did before the war, in obtaining poor installation and service work. The past five years has seen a great letdown in the quality of oil-burner installation work and service work. For example, before the war prospective oil-burner purchasers were often able to obtain from oil-burner dealers the combustion-quality guarantee which, as CU has repeatedly insisted, was necessary to insure low oil bills (a guarantee that the CO_2 content of the flue gases would be at least 10% with the oil burner adjusted to operate properly and with no sign of chimney smoke). Today, only a few of the most persistent homeowners are able to obtain such a guarantee.

Guarantee is essential

CU again warns homeowners: Don't buy a burner unless you can get this combustion-quality guarantee, because it is your only protection that the burner you buy will not use 25% to 100% more oil than it should. Also, as CU pointed out almost 10 years ago, the combustion-tested oil burner, since it is likely to be carefully installed, carefully adjusted, is far more dependable and satisfactory in every way than the oil burner installed and adjusted without regard to combustion tests.

The entire problem of obtaining a good oil burner today hinges on the difficulty of finding an oil-burner seller who will provide this combustion guarantee readily. For the fact is that since they find it possible to sell oil burners to homeowners who will accept almost anything, most dealers are unwilling to spend time on exacting buyers who demand not only excellent oil burners, but also excellent installation and service work.

Don't buy an oil burner unless you can make certain that you will obtain a good burner, well installed and well serviced. It is no exaggeration to say that following this advice may make it impossible for you to buy an oil burner. Here's why. Since the end of the war, hundreds upon hundreds of oil burners have been installed with

ten-year-old (sometimes rebuilt, often only refinished) electric controls, motors, ignition transformers, and oil-pump units. There have been certain oil-burner manufacturers who found it impossible, because of material shortages, to obtain new controls, motors, ignition transformers, and oil-pump units. They shipped to dealers, oil burners which lacked one or more of these important parts. The dealers dug up the needed parts from stock rooms of oil-burner service parts, scrap-piles, and other places, fitted these as best they could to the oil burners, and without informing the burner buyers of this, installed the oil burners as "new."

Replacement technique

In certain instances, parts which fitted the oil burners only approximately were applied to oil burners in factories and in jobbers' stores. Companies which specialize in repairing oil-burner parts, however old, did a landslide business. Some of these concerns urged oil-burner dealers to dig up and send in any vital oil-burner part and obtain in return, immediately, a "rebuilt" and refinished similar part in trade. Controls, oil-pump units, ignition transformers, and motors five- to 20-years old were palmed off on unsuspecting homeowners along with new oil-burner chassis and frames. With the old part expertly refinished to look new, sometimes even bearing a new label of one kind or another, the homeowner had no cause for suspicion.

Where a part of a completely-new oil burner gave trouble, often the defective part was replaced with another of ancient vintage; and the old part stayed on the burner from then on. Such replacement of new parts with old parts was commonly practiced; and the practice was encouraged by the fact that genuinely new parts being used on oil burners have been giving so much trouble.

Naturally, the oil-burner dealer using such dubious methods steers clear of too-knowing homeowners. To such a dealer, a homeowner who demands a combustion-quality guarantee appears too exacting; such a homeowner may ask embarrassing questions about the model and age of this-or-that vital part of the oil burner. Furthermore, even the dealer who provides burners and installations made up entirely of new parts finds it more profitable to deal with homeowners who are not too fussy about specifications and performance. The combustion-quality guarantee has teeth in it when properly used by a homeowner. Because of it, a dealer may have to spend $50 or $100 to "make a job right," that is, to eliminate fuel-wasting defects which are brought to the homeowner's attention by the combustion tests, but which otherwise would pass unnoticed.

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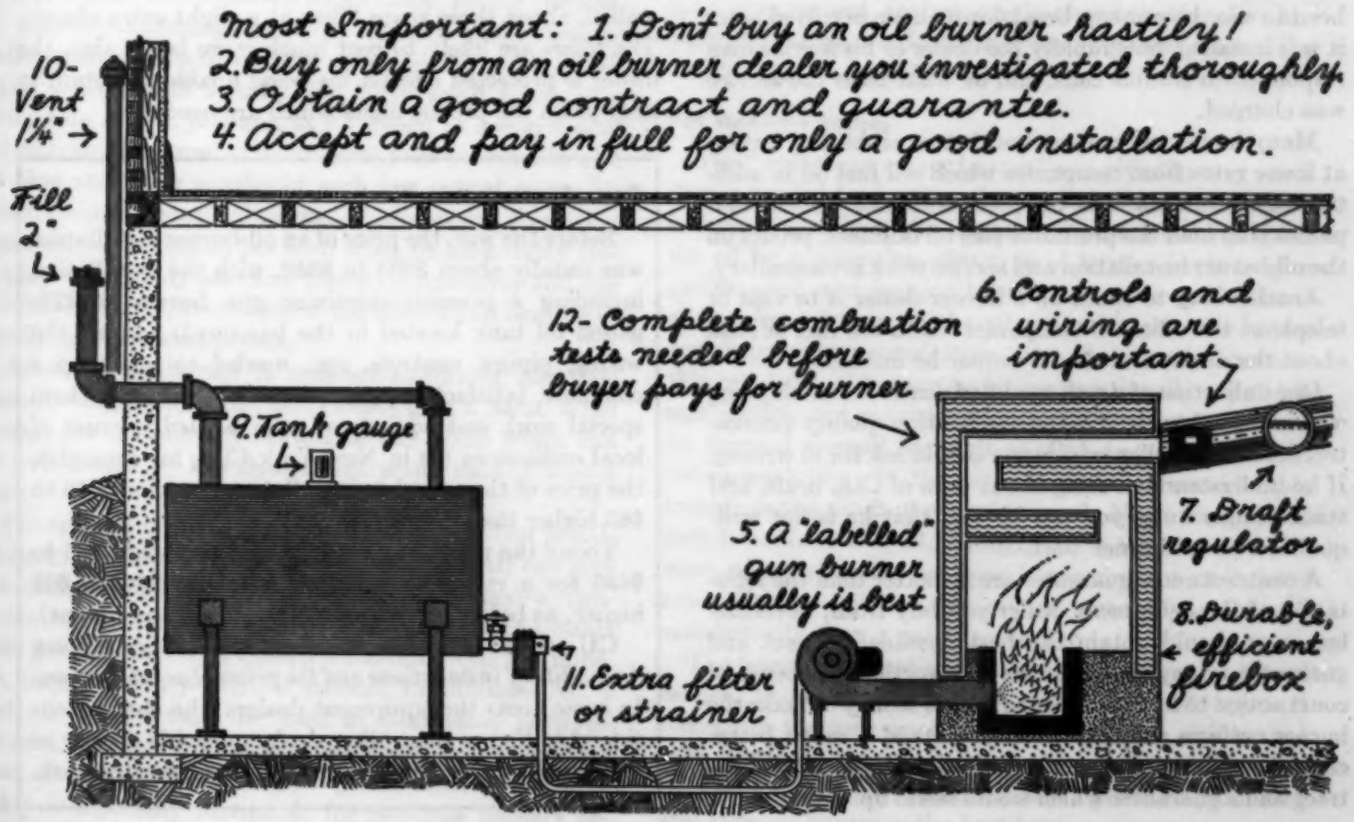
Most Important: 1. Don't buy an oil burner hastily!
2. Buy only from an oil burner dealer you investigated thoroughly.
3. Obtain a good contract and guarantee.
4. Accept and pay in full for only a good installation.
10- Vent 1¼"
Fill 2"
12- Complete combustion tests needed before buyer pays for burner
6. Controls and wiring are important
9. Tank gauge
7. Draft regulator
5. A "labelled" gun burner usually is best
8. Durable, efficient firebox
11. Extra filter or strainer

Follow these rules

The three big precautions for the homeowner to observe in buying an oil burner are:

▶ 1 — Don't buy hastily!
▶ 2 — Buy only from an oil-burner dealer you have investigated thoroughly.
▶ 3 — Make certain that you obtain a good contract and guarantee.

Hasty buying may cause you to buy from a fly-by-night dealer who is not only unreliable, but who sells at prices which may be $100 more than are quoted by more reputable dealers. If possible, obtain price quotations and written specifications from at least five burner dealers as your first step, take a month, if necessary, to check up on the dealers, and only then buy your burner.

Avoid buying from the little-known dealer who can "install a burner right away." It is better to wait three or four months for a reliable dealer.

To investigate the dealer thoroughly may call for all your ingenuity plus quite a bit of your time; still, there is no substitute for it. Usually it is best to buy from a dealer who has installed many oil burners in the locality over a period of years. Obtain a list of the dealer's customers. Visit at least half a dozen, if possible, since such visits bring out details that may not come out during a hasty telephone conversation with a stranger.

Ask to see the oil burner which the dealer installed in the customer's house. Find out how many years it has been in use, how many breakdowns have occurred since it was installed, how rapidly the dealer or his service man responded to trouble calls, and on what basis the service was charged.

Many homeowners have had better oil-burner service at lower rates from companies which sell fuel oil in addition to oil burners. The big point with many such companies is to hold the profitable fuel oil business; profits on the oil-burner installation and service work are secondary.

Another way to check on a burner dealer is to visit or telephone the offices of companies which sell fuel oil; ask about the dealer and the oil burner he installs.

One indication of a well-qualified dealer lies in his being well-informed regarding the combustion-quality guarantee, described earlier, which you should ask for in writing. If he understands nothing about tests of CO_2, draft, and stack temperature, you can be sure that he is not well-qualified for oil-burner work.

A contract and a guarantee are no better than the reputation of the equipment dealer you buy from; nevertheless, you should obtain the best possible contract and guarantee in any case. Seldom is it worth the expense of court action to force a dealer to refund money or make the burner perform properly; still, you stand a much better chance of obtaining a good installation if you get a contract and a guarantee which would stand up well in court.

Don't fail to read every word of any printed contract form which the dealer may ask you to sign. Make certain that the contract includes these items, even if they must be written into it:

1 — Every component part of the installation, and the complete installation, is to comply with the rules and regulations of the National Board of Fire Underwriters, and with any state and local rules and ordinances which apply to oil-burner installations. All inspections related to this are to be arranged for by the oil-burner dealer, and are to be made before the installation is considered complete and is charged to the homeowner.
2 — A new and separate circuit together with a fuse or fuses located near the electric meter is to be provided for the oil-burner equipment. If the oil-burner motor does not have a built-in overload protector, a circuit breaker is to be installed in the oil-burner circuit.
3 — The oil burner is to cause no radio interference, and is to be free of excessive noise and of tendencies to cause vibration when starting and stopping.
4 — The installation is to include a smokepipe draft regulator, a reasonably accurate and dependable gauge for the oil storage tank, and a large and effective fuel oil filter or strainer in addition to the strainer which is part of the oil burner.

With relation to item 4: If the dealer provides a "throw-away" cartridge-type oil filter, it is advisable for the homeowner to obtain from him, when the burner is installed, about three spare fillers at a slight extra charge. The fillers are likely to cost much more later; also, the owner is protected against his being unable to obtain in later years the precise fillers which are needed.

Cost of installation

Before the war, the price of an oil-burner installation was usually about $265 to $350, with the installation including a pressure-atomizing gun burner, a 275-gallon oil tank located in the basement, and all the wiring, piping, controls, etc., needed to make up a complete, satisfactory, guaranteed installation. Where special work and equipment were needed because of local ordinances (as in New York City, for example), the price of the complete installation ran about $50 to $65 higher than elsewhere.

Today the prices have been upped to about $435 to $495 for a complete installation (about $50 to $65 higher, as before, where special work has to be done).

CU consultants have found *no relationship between the quality of installations and the prices charged for them.* In some areas the equipment dealers who charge considerably higher than other dealers provide similar or inferior oil burners, installation work, and service work.

Fuel Oils

Some advice to owners of small homes regarding the selection of a burner and the fuel for it.

Domestic fuel oil is today of decidedly poor quality as compared to prewar fuel oil. Uniformity is lacking; some loads are gummy, dirty, and heavy. Today's oils include "cat-cracked" fuel oils from the catalytic refining plants erected during the war to produce aviation gasoline.

To oil-burner owners, the important thing about "cat-cracked" fuel oils is that they tend to produce more smoke and soot than prewar oils, and to cause additional oil-burner trouble, breakdowns, and expense. Giving a flame more air in an effort to make the "cat-cracked" oil burn clean lowers the efficiency and increases the oil consumption.

Quality deterioration apparent

Selection of the proper type of burner for heating a very small, well-insulated home is made more difficult by the quality deterioration in fuel oils which has occurred since the start of the war. CU finds that, in general, the typical homeowner does best to buy a pressure-atomizing gun-type oil burner; for a medium-size or large house, this type burner serves splendidly when well installed and well serviced.

But a small home needs a small flame. Before the war, a pressure-atomizing gun-type burner could operate satisfactorily when fitted with an atomizing nozzle which gave a firing rate suitable for fairly small homes — a firing rate as low, perhaps, as 0.7 gallon to one gallon of oil an hour. The trouble today is that the poorer oils tend to plug atomizing nozzles of such low output rates. To avoid frequent nozzle-plugging, nozzles which give firing rates above one gallon per hour must be used today (together with highly effective filters or strainers) and the resultant fires are too large for the economical heating of small, well-insulated homes.

As a rule-of-thumb: A pressure-atomizing gun-type burner using today's fuel oils cannot give a flame small enough for the efficient heating of any home which can be well heated by less than about seven tons of coal a year.

Pot-type oil burners of the conversion type (for installation in furnaces which were designed for coal) can give exceedingly small flames, but they rightfully have a reputation for producing more soot and giving more trouble than gun-type burners. Compared to other types of burners, they perform poorly, in general. In addition, No. 1 fuel oil usually must be used in conversion pot-type burners, and this costs more than the No. 2 oil used by most oil burners. The poor quality No. 2 fuel oil available today is especially unsuitable for pot-type burners because of its increased tendency to form smoke and soot.

The pot-type oil burners which are integral parts of many of the small warm-air furnaces (and so-called Winter air conditioners) being sold today are somewhat better in performance than conversion-type pot burners, but most of them require the relatively costly No. 1 fuel oil. However, where a very small home is to be oil heated, often the use of a warm-air furnace equipped with a built-in pot burner is advisable. In such case, the thing to do is to buy the best furnace-burner combination obtainable, from a reputable dealer who is well qualified to install and service the equipment; and then to use storm doors and storm windows and, perhaps, attic insulation to make certain that only a small amount of the relatively costly No. 1 fuel oil will be used.

The "low-pressure gun-type burner" can give an exceptionally small flame to heat a small house very efficiently. Because this type of burner has large nozzle openings through which air and oil flow together, its nozzle does not tend to plug, even when dirty No. 2 fuel oil is used. Fine-mesh oil strainers are not used in this burner to protect against nozzle plugging, therefore the strainers do not need frequent cleaning even when relatively dirty oil is delivered.

For smallest homes

The "wall-flame rotary burner" can give the very small flames needed for heating the smallest homes. However, because it employs the vaporizing principle to prepare the oil for combustion, this type of burner tends to give smoke, soot, and ignition trouble when low-grade No. 2 oil is delivered to it; on the other hand it gives far better performance and satisfaction than the pot-type burner. Where a local oil-burner dealer is exceptionally reputable and skillful, and recommends a wall-flame rotary burner for heating a small home, it is often best to follow his recommendation. If the oil burner gives considerable trouble as the result of using low-grade No. 2 oil, you can switch to No. 1 fuel oil. Though this is more costly, it is used, nonetheless, for pot-type burners, and a wall-flame rotary burner will use the oil far more efficiently and satisfactorily than a pot-type burner.

The foregoing complications all relate, as was explained earlier, to the problem of selecting the best type oil burner for the very small home which can be well heated with less than about seven tons of coal a year. For ordinary-size and larger homes, usually a pressure-atomizing gun-type oil burner is the best buy.

The Irritable Colon

▶ CU's medical adviser discusses the problem of colitis

The gastrointestinal tract has been called by doctors the "mirror of the soul." This figure of speech is neither extravagant nor new. For centuries, students of human nature have been aware of the profound influence emotions can have on the action of the stomach and intestines. Pleasure, pain, fear, anger and other feelings may cause startling changes in the activity of any organ of the body, but their effect on the gastrointestinal tract and especially the colon is most noteworthy.

Many persons have experienced a looseness of bowels before an examination, or after receiving bad news. Abdominal pains and distention are frequent accompaniments of states of mental tension. The following is a typical case in which symptoms were present for many years:

A case history

A man of 48 complained of alternating spells of constipation and loose stools. These symptoms were related to fatigue, emotional stress and the eating of roughage-containing foods. The symptoms began 20 years ago when, while at work in a sawmill, the patient saw the fingers cut off a man's hand by a circular saw. For the next three days, he was ill with diarrhea. From that time on, intestinal difficulties were frequent, and they were aggravated a few years later when he became financially hard-pressed. Constipation, abdominal pain and "gas" became worse. Any minor disturbance at home or at work would be the signal for a new period of intestinal difficulty. Similar cases are common in the records of practicing physicians.

By means of the fluoroscope and the X ray, doctors have been able to watch changes in the activity of the colon during emotional stress. In some individuals, exaggerated activity is noted; in others, there is complete inhibition of activity. X rays will, of course, reveal only the action of the intestinal muscles. They do not reveal changes in the secretions of the bowels which may also occur in emotional excitement.

"Mucous colitis" is a term employed to indicate cases of constipation, or constipation alternating with diarrhea, in which the stools appear covered with mucus. The presence of mucus in the stool is, however, more often the result of the abuse of the intestines by roughage foods, laxatives, or repeated "high colonic" enemas. But occasionally, mucus in the stool may be a primary result of the influence of emotions on the secretory glands in the mucous membrane of the bowel.

"Mucous colitis," "spastic constipation," and "irritable colon" are interchangeable medical terms. They indicate a type of colon disturbance in which the patient suffers from abdominal pains and distention, belching or passage of gas, and hard stools often alternating with loose stools. For weeks there may be severe constipation with the passage of small, hard, pebbly stools every day or every two or three days.

Anxiety about the stools may reinforce the anxiety that set off the constipation. The patient may take repeated doses of laxative drugs or eat large amounts of bran or whole-grain breakfast foods which change the constipation into diarrhea. Or diarrhea may occur spontaneously and last for weeks.

Spastic constipation, or irritable colon is, actually, a general nervous disorder in which the colon acts as a barometer of emotional changes. An understanding of this disorder as it occurs in a particular individual requires an understanding of his personality and emotional behavior. Such understanding would be easy if it were only obvious or conscious emotional states that were responsible for abnormal bowel activity. Unfortunately, the most decisive emotional factors are likely to be unconscious, hence, not apparent to the patient. Such unconscious factors can usually be uncovered only through intensive observation by a psychiatrist.

Cooperative treatment successful

Promising results in the treatment of spastic or irritable colon have occurred where physicians have worked in cooperation with psychiatrists. With such cooperative handling, the physician takes the routine history and makes a complete physical examination. To exclude the possibility of organic disorders, an X-ray study of the colon may be made, although this is usually unnecessary when the history is typical. The psychiatrist then makes an evaluation of the patient's personality and emotional behavior. He studies the patient's emotional conflicts, looking particularly for conflicts which coincided with the onset of his symptoms. Through such

treatment, the patient attains an understanding of the origin of many of his symptoms. He realizes that the constipation, the diarrhea, and the abdominal pain are not isolated symptoms of a disturbance of only one organ (the colon), but rather that they are a dramatic way in which a general emotional disturbance is displayed. Such understanding is an important part of the process of treatment for the disorder.

This kind of treatment is, unfortunately, available to only a few of the millions of persons troubled by irritable colon. Expert psychiatric treatment by a trained psychiatrist can be purchased only by those who are fairly well off. Or it may be obtained by the few patients who are accepted by groups of doctors working in medical school clinics and who have a special interest in "psychosomatic disorders."

The studies of psychiatrists and of such groups of doctors have uncovered a good deal of psychological data about the patient with nervous indigestion or irritable colon. The person with irritable or spastic colon has usually had symptoms since adolescence or early adult life. A sharp unhappy emotional experience may set off the first symptoms, which may then persist throughout life, with ups and downs paralleling the individual's ups and downs of emotional behavior. When things are going well at home, school or work, the symptoms may be mild or quiescent. When the going is rough, symptoms reappear or are aggravated. Or if a current advertising campaign has persuaded the sufferer to take bran or *Sal Hepatica* to relieve "fatigue, nervousness and bowel troubles," then severe aggravation of symptoms is likely to occur. But often there will be no apparent family, work, or social tensions associated with symptoms. Then unconscious, hidden feelings are probably responsible.

Predisposing personality characteristics

In reporting a careful study [1] of personality and unconscious mental factors in mucous colitis, Doctors White, Cobb and Jones of the Harvard Medical School assert that there are certain characteristics which appear to predispose to the development of tension in mucous colitis patients. These include "overconscientiousness, dependence on the opinion of others and sensitivity. Persons with these characteristics readily become anxious when they experience any threat to their egos and particularly in situations where they feel that their actions may be subject to criticisms. In this circumstance, they often experience the feeling of guilt. . . . The three emotions, anxiety, guilt, and resentment, are those most commonly associated with tension in patients with mucous colitis."

Dr. Franz Alexander and his colleagues at the Chicago Psychoanalytic Institute have made intensive studies of personality and emotions in such gastrointestinal disorders as peptic ulcer and "colitis." It is impossible to give details of the results of their studies but their conclusion in brief is that neuroses and, particularly, "organ-neuroses," such as peptic ulcer or "irritable colon," can be understood in terms of the individual's basic reaction to the outer world. According to Dr. Alexander and his colleagues, there are three different basic reactions — reception, elimination, and retention.

A person with marked "reception" tendencies is always "hungry for love." The love is identified with food, as in infants who are fed by their parents. The chronic state of hunger for love or being loved may cause an oversecretion of juices in the stomach. This, in turn, may lead to ulcer. A person with marked "elimination" tendencies has unconscious obligations to give. The loose and frequent stools, the psychiatrists believe, may express generosity or a readiness to sacrifice. A person with "retention" tendencies, on the other hand, has an unconscious wish to preserve feces; he may be stingy and lack the drive to give or be generous. According to Dr. Alexander, the relative participation of the three factors — reception, elimination, and retention — will determine the nature of the gastrointestinal disorder.

This classification of persons into "intakers," "eliminators," and "retainers" has not been accepted by all psychiatrists. As Dr. Otto Fenichel has pointed out, "It is by no means the case that one of these attitudes necessarily prevails. It is not the existence or strength of these attitudes that is decisive, but the relation of all three attitudes toward anxieties and guilt feelings" and the effect that social tensions have on them that will determine the character of the neurosis or nervousness. "Frequently, economic changes may turn an 'intaker' suddenly into an 'eliminator' and vice versa," says Dr. Fenichel.

Regardless of the merits of these precise classifications, the behavior of a person is continually influenced by his conscious and unconscious instinctual needs and these needs, in turn, are continually influenced by social tensions. The dynamic interplay between personality, emotions, and society will determine the way a person behaves and the nature or character of "psychosomatic disorders" affecting him. Social frustration, such as bad housing, may not create a neurosis or an irritable colon in a so-called normal person, but it can act as a precipitating factor in a person who has a precarious emotional balance — which is true of most of us. The profound influence that social tensions, conflicts and frustrations have on personality and behavior cannot be discussed in detail here, but it is obvious that a rational treatment of a disorder such as irritable colon must take into account social as well as physical and psychological factors.

In the private practice of medicine, the average doctor cannot take the time to go into all or even the most

[1] *"Mucous Colitis — A Psychological Medical Study of 60 Cases," Psychosomatic Medicine Monograph.*

important of these factors. As for understanding and treating psychological difficulties, that can be done effectively, as already pointed out, by the psychiatrist, or by doctor-groups working with psychiatrists. The family doctor in private practice, with the best intentions in the world, can only skim the surface of the patient's social-psychological difficulties. The family doctor can help, however, by reassuring the patient that the disorder is not serious; by suggesting sensible hygienic principles; and by prescribing proper diet and drugs. If these measures cannot cure, at least they can make the patient more comfortable.

Whatever else is done in the treatment of irritable colon, a special diet is invariably prescribed. This diet is called a smooth or low-residue diet. It calls for the avoidance of all coarse foods with fiber, skins, seeds, or gristle. Salads made with celery, tomatoes, cucumbers and pineapple, many of the green vegetables, raisins, berries, jams (full of seeds), nuts, and many of the raw fruits (pineapple, apple, plums) should also be avoided. Beans, cabbage, onions, green or red peppers, melons, cucumbers, and peanuts are on the list of foods to be omitted from the diet. Whole-wheat breads and cereals often cause trouble and should not be eaten. Fried foods may be eaten if they are properly fried, that is, totally immersed in fat at the right temperature. Chewing gum may cause distress, since much air is swallowed with the saliva. Meats, fish, fowl, eggs, milk products, white bread, peeled raw or stewed fruit and puréed cooked vegetables are permissible foods. The patient should avoid eating when in a rush and when mentally upset. Family rows should take place away from the table.

Baldness

by Abner Kurtin, M.D.

The one hundred and twenty-thousand hairs that compose the average head of hair have long been the cause of heartbreak and the subject of fruitless speculation. The wise Greeks of antiquity unashamedly had their shining bald pates immortalized in marble. Today, the naked scalp has lost its symbolism of mature wisdom. Instead, its possessor has become the subject of gibes of his fellow man and the game of advertisers.

A state of incipient baldness exists when the rate of hair fall exceeds the rate of hair replacement. The life histories of single hairs have been studied, and it has been shown that an average hair lives from two to six years and then falls out. It is quickly replaced by a new hair which grows from the same hair follicle. (A follicle is an indentation of the skin at the base of which are the living cells producing the hair substance.) Vigorous combing or brushing will dislodge hairs which are about to fall, and therefore, it is normal to find hairs in the comb or the brush after use. In some persons, the rate of hair fall seems alarming, but the replacement is rapid enough to preserve the original luxuriance of the growth.

An average hair will grow about 24 inches before it falls. One hair in five will fall before it has reached full maturity. It may be likened to the occasional unripe apple that will fall from a healthy tree during a windstorm.

The causes of excessive hair fall are many. They may be grouped into four broad classifications.

Senile baldness

"Senile baldness" is the inevitable end state of the scalp in many persons of advanced age. The wispy, scattered gray hair on the scalps of the aged is a common sight. This will be an ever increasing phenomenon as the average age of our population rises. The prevention of this state is identical with the problem of the prevention of the aging process.

Male baldness

The common type of "male baldness" is characterized by a receding hair line. It begins insidiously in the third decade of life. The forehead inexorably becomes higher and grander and if the man lives long enough, contact is inevitably made with the back of the neck. There is some evidence to indicate that this hair loss may be dependent upon the presence of excessive amounts of male sex hormone in the tissues. A person who suffers castration early enough in life will never develop this type of baldness because of the absence of the sex glands which produce the male hormone.

It is apparent that if a hormone disturbance is responsible for this type of hair loss, any type of local treatment applied to the scalp would be of little value. Lotions, massage, vibrators, special "scalp treatments" are all futile.

Recent researches indicate that the activity of excess male sex hormone can in small measure be inhibited by the use of female sex hormone. Good results have been reported by a few observers from the use of female sex hormone when given by mouth or by intramuscular injection to males whose baldness is of the receding hairline type. More studies will be necessary before it can be said that the treatment with sex hormone is of value as well as harmless. The *local* application of female sex hormone in the form of creams, while theoretically an attractive method of application, has not proved effective.

Seborrheic baldness (dandruff)

This is the type of baldness which starts at the top of the head and spreads peripherally. The baldness is the result of a low grade, chronic inflammatory disease of the

scalp known as seborrhea. Scaling, or dandruff, is the predominant symptom of seborrhea. The exact cause of this disorder is not known. Large numbers of bacteria are found in the dandruff scales, and our present understanding is that these organisms may in some way contribute to the development of the disease. Dandruff, if allowed to proceed unchecked, may in the course of years result in hair loss. New hairs may not be produced because of the constant inflammatory condition of the hair roots.

This is the type of baldness in which scalp lotions and special scalp treatments have been most successful.

Many of the well-advertised treatment routines employ practices familiar to doctors — massage of the scalp, vigorous brushing and use of lotions and shampoos. These treatments are successful in removing or curbing dandruff while they are applied, but they do not *prevent* or *cure* dandruff. Nor will these treatments or lotions restore hair.

Many antiseptic materials have been successfully used in the treatment or prevention of dandruff. Sulfur, resorcin, mercury and tar compounds have been employed with satisfactory results. Almost all the popular commercial lotions sold or advertised include one or more of the above ingredients.

An effective lotion for the control of dandruff and prevention of seborrheic hair fall follows: (This can be prepared by a pharmacist. It can be used for either blonde or dark hair.)

Liquor Carbonis Detergens	10%
Sodium Propionate	7%
Salicylic Acid	2%
Resorcin Monoacetate	2%
Sulfur ppt.	2%
Bay Rum q.s.	4 oz.

(*Shake before using.*)

The use of sodium propionate in the treatment of seborrheic disorders is quite new. Its use is based on the observation that a fatty acid or its salt (such as sodium propionate) is essential for normal functioning of the scalp glands.

The lotion may irritate the scalps of a few persons because of the presence of tar and salicylic acid. If burning occurs, the lotion should be diluted with more bay rum.

The above preparation should be applied to the entire scalp by means of an eye dropper every night for a week, after which, application twice a week is usually sufficient. Three eye droppers full should be used at each application and rubbed in with the fingers. Seborrheic scaling should disappear in about ten days if this treatment is followed. Several druggists were consulted as to the cost of the above prescription. They indicated that any charge over $1.50 would be excessive.

Normal hygiene of the scalp should be maintained during treatment. This means that the hair should be brushed twice daily and that it should be shampooed about once a week, the frequency depending on the amount of dirt in the environment. Any soap or shampoo that doesn't irritate the scalp can be used. (See the *Reports*, July 1946.)

Other types of baldness

There are other local and general diseases (such as ringworm and typhoid fever), which can cause hair loss. The diagnosis should be made and treatment prescribed by a competent physician or dermatologist.

One fairly common variety of hair loss in women is that occurring about two or three months after delivery. Fortunately, no treatment is necessary, since spontaneous cure occurs after several months.

Government and Medicine

An analysis of proposed health legislation and the forces for and against it

The debate on Federal compulsory health insurance vs. private voluntary health insurance is in essence a debate on the role the Federal Government should play in making complete medical care available to all the American people. The philosophy behind the Wagner-Murray-Dingell bill to expand social security and to provide health insurance for all the people is that good medical care is as much a right of all Americans as education and that the Federal Government has the obligation to see that they get adequate medical care. The philosophy guiding the opponents of social and health security is that medical care is the concern only of the people themselves or of their individual communities or States. Senators Taft, Ball, Smith and Donnell have introduced a bill in the Senate (S.545) which expresses this latter philosophy.

Analyses by the Physicians' Forum[1] and the Committee for the Nation's Health[2] show the serious defects in the Taft bill. This bill is designed to give medical aid only to the "needy." Actually, the fact is that the people who need help in meeting the unexpected costs of medical care, including consultations, X ray, and laboratory services essential for diagnosis and treatment, are the vast majority of self-supporting Americans and not just the small fraction of the population the Taft bill would cover. In essence, the bill is based on the principle of

medical charity. This cannot be a substitute for national health insurance.

The need for a comprehensive Social Security Act, such as the Wagner-Murray-Dingell bill, was well formulated by Wendell Willkie in 1944. "A free economy, by its nature," he said, "entails a certain amount of fluctuation and risk. . . . But we cannot enjoy the freedoms of such a society without a minimum of economic security. Therefore the risk must be spread sufficiently to guarantee that all members of society are protected against the final economic disaster of going without the bare necessities of life. This is the function of the social insurance.

What do we want?

"We have too often been led to regard the social insurance as the opposite rather than the supplement of our free enterprise system. We have been presented with them as alternatives. Do you want security or initiative? Do you want protection or adventure? This is a fictitious issue. We need both. Indeed we cannot have one without the other. We cannot have security in terms of an advancing standard of living without enterprise. We cannot have the initiative or energy we need for an expanding economy without preserving and increasing the vigor of our human resources."

To provide the historical and factual background on the role of government in medical care, Dr. Bernhard J. Stern has written an important and timely book. "Medical Services by Government[3]" is the third of a series of monographs on medical care that Dr. Stern has written at the invitation of the New York Academy of Medicine's Committee on Medicine and the Changing Order. Dr. Stern points out that the cry of the standpatters, "local responsibility only in medical care," has led to wasteful multiplicity of administration in which there has been a striking lack of financial, technical and trained professional resources to dispense good medical services. The assumption of greater responsibility in this field by State governments has resulted in some improvement, but there is tremendous unevenness in the contributions by various States. Most States are too poor in finances and technical resources to do a good job. Federal grants-in-aid have helped to a limited extent to meet State deficiencies. Many Federal agencies have undertaken major medical programs for limited sections of the population and have done splendid pioneering work that has served as a model for State and voluntary agencies.

Responsibility recognized

That the Federal Government must accept greater responsibility for medical care for the entire American people is implicit in the wealth of material provided by Dr. Stern's book. This responsibility was recognized by President Roosevelt in his famous Bill of Rights. It is recognized by all progressive doctors and patients. Both can make excellent use of Dr. Stern's book in advancing the cause of genuine social security and Federal compulsory health insurance.

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[1] *Physicians' Forum, Inc., 510 Madison Ave., NYC.*
[2] *914 G Place, N. W., Washington 1, D. C.*
[3] *Published by the Commonwealth Fund, NYC, $1.50.*

Recent Advances in Medicine

Emergency treatment of acute poisoning

Research on acute poisoning, undertaken by doctors at the University of Copenhagen during the war, indicates that the time-honored method of emergency treatment of such poisoning by vigorous washing out of the stomach is not as effective or as advisable as has been generally assumed.

Dr. Moller and his associates reported the results obtained from treatment of 71 patients who were ill with acute barbiturate poisoning, resulting usually from attempts at suicide. The stomachs of these patients were washed out with large amounts of water by means of a stomach tube. In most cases, the washings did not show appreciable amounts of the drug. This was also true in poisoning by other common drugs.

Small repeated washings, however, were found to be more effective in removing the poisonous substances than a few washings using a large amount of fluid. With large washings, it appears, much of the fluid goes into the intestine and is then absorbed into the body. A danger with the use of large amounts of fluid is that washing a stomach while a patient is unconscious may cause aspiration of the fluid into the lungs with resulting pneumonia or lung abscess. If stomach washing is done at all, therefore, it should be attempted only in conscious patients. Inducing vomiting in a conscious patient by tickling the throat or by hypodermic injection of an emetic drug such as "apomorphine hydrochloride" is a more rapid and probably more useful measure than stomach washing, according to the Copenhagen doctors. The most useful thing a person can do until a doctor comes is to try to induce vomiting by touching the inside of throat with a finger tip. If this doesn't work, it is best not to do anything at all.

Sterel "disinfectant vapors"

Studies of the effects of glycol vapors in the control of respiratory infections have been conducted in isolation wards of army hospitals, in barracks, and in a few general hospitals. According to a special subcommittee appointed by the American Public Health Association[1]: "Observations have not been continued for sufficient periods nor have controls been adequate to provide conclusive evidence . . ." of the value of glycol vapors. Certainly there has been no evidence from any published scientific work that dipropylene glycol will check the spread of flu, scarlet fever, mumps, measles, or the common cold. As for typhoid fever, which the ad claims is also checked, that is sheer bunk. Typhoid bacilli are transmitted by human carriers, by flies, by infected water supply, and by infected foods. Vaporizing the air with a glycol will *not* check typhoid fever. Vaporizing surfaces of rooms with it may introduce an additional hazard in the form of a toxic organic chemical substance.

The use of glycol vapors for disinfecting air is of some promise. But the technique of dispersing this vapor is surrounded with so many difficulties and pitfalls that the average consumer is hardly justified in attempting this type of disinfection in the home. In any case, many infectious diseases are transmitted in schools, offices, subways, cars, etc., and not in the home. According to the subcommittee of the American Public Health Association: "The general use of ultraviolet irradiation or disinfectant vapors in schools, barracks and in specialized industrial environments is not justified at the present time. . . . There is no justification for the indiscriminate use of ultraviolet light or other methods for disinfecting air in homes, offices, or places of public congregation." To which may be added — there is no justification for the indiscriminate advertising of untested or inadequately tested substances such as dipropylene glycol with exaggerated or misleading claims.

If you read the *New York Times*, you have probably run across advertisements for *Sterel*, a new "powerful, war-proved germicide." This product, the producers claim, will kill "viruses that cause colds . . . Flu, Scarlet Fever, Mumps, Measles, Typhoid . . . by simply spraying."

To understand what such a product can or cannot do, one should know the four main routes by which infectious organisms (bacteria and viruses) are spread from one person to another. These routes are:

1. *Contact* — direct transmission as in kissing or handling, or, indirectly, by toys, surgical instruments, and other objects.

2. *Droplets* — transmission directly by sneezing or coughing into mouth, nose, eyes, skin, or open wounds.

3. *Droplet Nuclei* — transmission directly by inhalation of the small residues which remain from the evaporation of droplets and which may persist suspended in the air of enclosed spaces for long periods of time.

4. *Dust* — transmission, indirectly, by inhalation of particles of dust which have accumulated on floors, clothes, or bedding, and which can also remain suspended in the air.

The spread of infection by contact or by droplets can be controlled by known hygienic measures such as isolation, quarantine, good personal hygiene, and sterilization in surgical treatment. The spread of infection by droplet nuclei and dust is, however, an environmental problem, and is subject to attack by methods of "air disinfection."

"Air disinfection" is a relatively new term in preventive medicine. It can be achieved by: (1) *Mechanical ventilation* — as by opening windows. (2) *Ultraviolet irradiation*. This has been used with considerable success in children's contagious disease wards and in operating rooms. It is also being tried in schoolrooms to prevent cross-infections of contagious diseases such as mumps, measles and chicken pox; here the results are not as yet conclusive. There is no evidence that ultraviolet irradiation will prevent the spread of colds or flu. (3) *Dust suppression*. The oiling of floors and bedding is a simple and effective method for immobilizing dust and reducing bacterial contamination of air. Although the number of bacteria resulting from sweeping or other activities in a room is thus reduced, there is insufficient evidence at present to establish the value of oiling in the control of respiratory diseases. For those who suffer from dust allergy, oiling is a valuable method for reducing dust from floors and bedding. For floors, use light paraffin oil or spindle oil on a mop. For blankets and bedding, a stable oil-in-water emulsion made with a neutral detergent (Triton N.E.) is added to the first rinse water in the laundering process. (4) *Disinfectant vapors*. The fourth and last method of air disinfection is the use of disinfectant vapors. Among these are hypochlorous acid gas, lactic acid, iodine vapor, and certain glycols. The glycols have been found most adaptable, experimentally, in reducing the bacterial and virus content of the air.

The control of respiratory diseases by chemical disinfection of the air with glycol vapors or "aerosol" has been tried over a period of several years. Triethylene glycol seems to be the most adaptable of the glycol vapors used for this purpose because of its potency, its reasonable cost, and its freedom from odors, toxicity, and corrosiveness to metal surfaces. Propylene glycol has also been used by a number of investigators with a modicum of success. Careful review of the medical literature fails to disclose, however, that dipropylene glycol, the active ingredient of *Sterel*, has been used as an air disinfectant in any extensive tests.

[1] "The Present Status of the Control of Air-Borne Infections," *American Journal of Public Health*, p. 13, January, 1947.

Health Fallacies

A review of some facts and fancies regarding exercise and health.

Interest in exercise and sports is probably greater in this country than in any other. Every youngster has fantasies at some time of being a Babe Ruth or some other sports hero. Every well-muscled high school and college student tries for a team. Every graduate who can buy a ticket goes to the "big game." Almost every American knows the major league baseball standings in midsummer.

Sports and exercise have been praised as character-building, muscle-building, and the basis for good health. Like most slogans, there is only a grain of truth in this. Character-building begins at home in early years and in the setting of the family. The interrelation between family and community life is of far greater influence on the developing character of the child than a sports program or exercises in high school or college.

Sport activities have different effects on different persons. For many there is a sensuous pleasure in the coordinated and competent use of limbs, muscle, and brain. For others, sports is a means of achieving superiority, of triumph over a competitor. Still others employ exercises and sports as they would drugs or other therapeutic measures — to ward off anxiety, to ease tension, or as a physical bulwark against infections or other diseases. With advancing years, exercises and sports may be employed with the conviction that they will postpone the advent of old age or middle age. The sense of achievement on a squash or tennis court may give false illusions of youth to many who would do better to watch on the sidelines.

Is the confirmed athlete healthier than the sedentary onlooker? Is he freer of infections, less likely to get heart trouble and a better candidate for a happy old age than the non-athlete? Life studies of sports or exercise addicts compared with those who are more or less sedentary do not give any advantage in terms of health or longevity to the former.

There is no doubt, however, that sports or exercise *in moderation* (the older one gets the more moderation) are healthful in the sense that they promote relaxation or diversion from the day's routines or tensions. If you enjoy the sports or the exercise, it is healthful. If you get no pleasure from it, then it has no positive health value.

There are many other misconceptions and false notions that deserve comment. For example, it has long been recommended that in hot weather we should eat little meat or protein food on the assumption that the "specific dynamic action" (heat production) of the food element adds to the heat load and makes us less efficient. While the metabolism may be slightly raised by a large amount of protein in the diet, no essential change in fitness for work or physical activity has been found in persons who eat large amounts of proteins in either hot-dry or hot-humid environments.

Every few years there is a fad for some special food or drug to increase physical capacity or ward off fatigue. Marathon runners sucked on limes. Wimbledon tennis players drank barley water between sets. Every country and every decade has had its favorite "energy-vitalizer." In this country during the past decade, the gamut has run from gelatin to grape juice, from Coca-Cola to vitamin B complex, and even to salt capsules.

Claims for unique properties of gelatin in dispelling fatigue have long since been disproved (see *Consumers Union Reports*, May, 1941). Ads for gelatin, grape juice, etc., are fond of citing ". . . recent research work proves, etc. . . ." But when such research work is investigated, it is often found that the work was done by investigators paid by an interested commercial enterprise. Readers of *Consumer Reports* are familiar with the lamentable fact that a lot of so-called "medical research work" does not advance our knowledge of human life or disease, but is rather a means of advancing the profits of special commercial interests. It is unfortunate that so many M.D.'s and Ph.D.'s sell themselves to that kind of debasing "research."

Vitamin preparations containing thiamin and other B vitamins have never been proved to aid physical performance of those who live on a normal, well-balanced diet. Vitamins, in excess of those supplied by such a diet, will not increase physical fitness or ward off fatigue, or prevent colds or old age. Nor will large amounts of ascorbic acid (vitamin C) have any appreciable effect on persons working or exercising in a hot environment.

The place of salt

As for salt capsules, an average amount of salt in the diet, that is, about 10 grams a day, will make for better performance on hot days than a low salt intake, but no advantage is gained by raising the intake to 20 or 30 grams a day. Taking extra salt tablets for a game or a bit of strenuous sport will not increase efficiency. If sweating occurs, extra salt may replace that which is lost, but it is usually unnecessary to do this with salt capsules since the body can adjust very well to the brief period of salt loss associated with a strenuous game on a hot day. Later meals provide ample opportunity for salt replacement. It is only when the loss is prolonged that supplementary salt intake is needed.

The problem of fatigue at work — physical and mental — is a separate subject, far more complicated than the fatigue associated with exercise or sports. It will be discussed in a subsequent article.

Bread & Butter

Reports and analyses of economic and legislative developments affecting consumers

A Preview of 1950

The major postwar economic problem of the United States is the maintenance of high and stable levels of employment. Today, employment is at an unprecedented peacetime peak, but the people are still haunted by the memory of the Great Depression. They have not forgotten that one-fourth of the total working force was unemployed in 1933, and that even at the height of the subsequent recovery, one out of every eight persons willing and able to work was unemployed or on a relief project. Out of this harrowing experience developed the demand of the people for a national policy to achieve full employment.

The desirability of this goal is almost universally acknowledged, but the magnitude of the economic problems that will have to be solved in the course of its attainment is not generally understood. A full employment economy in the postwar period will require the effective meshing of proper production, distribution, wage, price and fiscal policies. Each one of these policies, and all of them in the aggregate, must contribute towards a balanced economy that can sustain full employment and its concomitant — capacity production. To work out these individual policies and the over-all program, we must have a much better grasp of the problems we will face in achieving a full employment economy.

In a comprehensive survey entitled "Full Employment Patterns, 1950," the U. S. Bureau of Labor Statistics has analyzed some of these basic economic problems. The study does not forecast what will happen in 1950; rather, it outlines the implications of full employment in that year for production, prices, consumer and business demand, productivity, etc. The survey throws a revealing light on the interrelated and interacting patterns of a full employment economy.

The framework of the analysis, it should be noted, is based on the known habits, preferences and behavior of the American people and not on unpredictable changes in these patterns. As it points out: "The present analysis is not concerned with any perfect or ideal economy, but rather with the kind which could develop in 1950 as a result of free and unrestricted choice. The past behavior of the American people, as indicated by available statistics and studies, has been used throughout as a guide. For example, estimates of the size of the labor force in 1950 are based not on any preconceived notions with respect to the desirability or undesirability of having married women work, but rather on analysis of how many married women have entered the labor market in the past. Similarly, the estimates of consumer expenditure embody no judgments with respect to the relative virtues of thrift or extravagance; they are solely an attempt to appraise objectively the future preferences of the American people in terms of their past actions."

The key factors

There are certain key factors that will have a crucial effect on the kind of economy we will have in 1950. The number of people who are likely to be in the labor market seeking jobs is one important factor. Another is the way in which their incomes will be spent, since this will affect the over-all volume of production and its distribution among various industries. The level of productivity will influence prices and wages, and the drive to increase the output of workers through modernization of plant and equipment will affect the volume of business expenditures. The length of the working week, the volume of foreign trade, the volume of government expenditures will each have its effect on the economy. In its study, the BLS attempts to project these and other factors on the basis of past economic behavior so that we can have a preview of a full employment economy in 1950.

The BLS begins by examining the probable size of the labor force and the distribution of civilian employment in 1950. There has been a continuous increase in the labor force, partly because of population growth and partly because of greater participation in the labor force by certain groups, particularly women. Thus, in 1900, only 19 percent of women between the ages of 20 and 64 were in the labor force; by 1940, their participation had increased to 29 percent.

Back in 1940, the size of the labor force was 55.5

millions. Even after allowing for earlier retirement of workers and later departure of young people from schools, the BLS estimates that the labor force will increase by 6 million persons from 1940 to 1950 as a result of the growth in population and the greater participation by women. In addition, the BLS believes that about one million persons who went to work during the war emergency will still be in the labor force in 1950 although normally they would not have sought jobs. The projection for the labor force in 1950 is therefore 62.5 million persons.

The BLS estimates the size of the armed forces in 1950 at 1.5 millions. It also expects that what it calls "frictional" unemployment, consisting of workers moving from job to job, will be down to a minimum of two million. Thus, even in a full employment economy, the BLS study allows for a minimum of unemployment due to the frictions inherent in our system of production and distribution. But allowing for this factor, full employment in 1950, according to the BLS, will require about 59 million jobs. By way of contrast, there were only 45 million jobs in 1939 — the base year used in the study — when some 10 million persons were unemployed.

Output rate important

The level of production that must be attained to provide 59 million jobs in 1950 will depend on productivity; that is, on how much each person produces. In the two decades between World War I and World War II, productivity increased at the rate of three percent a year, compounded. Output per man-hour rose 80 percent from 1919 to 1939. In other words, in 1939, it took only 12 workers to turn out a quantity of goods which had taken 20 workers to produce in 1919.

The BLS projects estimated changes in productivity for various industries from 1939 to 1950, with the increase for most industries ranging from 20 to 30 percent. For industry as a whole, the average increase in output per manhour is estimated at 23 percent. It is important to note that this estimate is quite conservative, that the assumed increase after 1939 is smaller than the rise in productivity which actually took place in the depression decade of the 1930's. The likelihood is that the increase in productivity will be considerably greater than the BLS estimate. Should this be true, the level of demand required to absorb the production of goods in 1950 will also be greater than the BLS estimate.

The most important component of total demand for goods and services is consumer demand. But the volume of consumer demand depends upon the level and the distribution of consumer income. Using its estimate with regard to the increase in productivity as a base, the BLS study makes two further assumptions in order to arrive at the amount of national income in 1950. These assumptions are that wage rates will be about 15 percent higher than in mid-1946, and that the working week will consist of the same number of hours as before the war.

The BLS estimates that national income in 1950 will be about 185 billion dollars. This compares with 161 billions in 1945, the last war year, and 164 billions in 1946. Significantly, since the estimate is based on previous relationships among the various components of national income, we find that the projection puts the increase in wages and salaries from 1945 to 1950 at nine percent, while the increase in corporate profits after taxes is 65 percent.

Low incomes to continue

A breakdown of the distribution of family incomes at the estimated 1950 level reveals that low incomes will be far from uncommon. Under the estimated 1950 conditions, more than 50 percent of the families will receive incomes of less than $3000 a year; more than 28 percent will receive incomes of less than $2000; one-sixth less than $1500; one-twelfth less than $1000. It therefore appears that even under the favorable assumptions of the BLS study, millions of American families will not receive incomes large enough for them to maintain a satisfactory standard of living. Without allowance for changes in consumption patterns, and assuming that prices in 1950 will be at the mid-1946 levels, the minimum budget for health and decency living standards — as defined by the authoritative Heller Committee of the University of California — will require at least $3500 for a family with two children. But this figure will be considerably above the income of more than half of the American families in 1950.

Price level doubtful

Consumer expenditures depend not only on income, but also on prices. When the BLS study comes to the 1950 price pattern it does not attempt to discuss the effects of higher productivity and of monopoly controls. It simply assumes a price level equal to that prevailing in mid-1946, since within the framework of its general analysis this will permit payment of the higher wages and profits which were discussed previously. Upon the basis of this assumed price level in 1950, consumer expenditures are projected in line with their prewar relationship to income.

The magnitude of the increase in expenditures and the consequent increase in demand for goods and services from 1939 to 1950 is astonishing. With corrections made for changes in the price level, the over-all increase in the demand for goods and services by consumers will be 50 percent, with increases ranging from a rise of 25 percent in agricultural products, to an increase of more than 100 percent in automotive products. Translated into human terms, these figures will represent an enormous increase in the well-being of the American people if the projected demand can be met and satisfied. The United States will

not yet be a Utopia — as witness the distribution of family incomes noted before — but the people as a whole will have the greatest prosperity in their history, provided these levels of demand can be attained.

High as this projected consumer demand is, however, the BLS study finds that it will not be sufficient to sustain the employment of 59 million persons in civilian jobs. After correlating consumer demand, government expenditures, foreign trade, volume of construction and investment demand, the study finds that total demand as projected can be satisfied and still leave unemployment in 1950 at 6.7 millions instead of the initially assumed minimum of two million. Moreover, a higher figure for the increase in productivity than the one assumed by the BLS survey will materially reduce the number of employed workers required to produce the volume of goods and services that will satisfy the estimated over-all demand of the economy in 1950, and thereby increase the number of unemployed considerably above the seven million level.

Demand insufficient

We find, then, that a level of total demand based on prewar consumption patterns, estimated business and government expenditures, foreign trade, construction, etc., will not be sufficient to provide the required 59 million civilian jobs in 1950. Moreover, if we start the analysis with the assumption that seven million persons will be jobless instead of a minimum of two million, the result will be a much lower final demand and a much higher level of unemployment. To reduce the unemployment gap, therefore, it is necessary to increase the level of total demand enough to permit the achievement of full employment.

Whether total demand can be increased sufficiently to provide full employment will depend upon the programs that will be carried out with respect to wages, prices, taxes, investment, government expenditure, etc. The BLS study does not discuss the instruments of policy that will have to be developed, but limits itself to projecting the magnitudes of the increases in total demand required to generate a full employment economy.

One way to increase total demand is to raise the level of consumer expenditures. The BLS study estimates that if the physical volume of consumer demand for goods and services rises to a level 80 percent higher than in 1939, the economy in 1950 will be able to provide full employment. This volume of expenditures does not involve a redistribution of income, but assumes a considerably higher ratio of spending to income, with a corresponding lower level of savings. At this volume, demand will be 33 percent greater for agricultural products than in 1939, more than 60 percent greater for food processing, more than 180 percent greater for automotive vehicles, 79 percent greater for services, 123 percent greater for all durable goods, and 72 percent for all nondurables.

Increases of this magnitude imply a standard of living far higher than has ever been achieved before, although 7.5 million families will still earn less than $1500 a year, according to the BLS estimates. The projection simply shows us the goal that must be attained; it does not tell us how to overcome the enormous difficulties that stand in the way of achievement of the goal.

Raising consumer demand is not merely a matter of changing consumption patterns as is done in the BLS projection. The level of consumer demand involves wages, which in turn depend upon production and jobs; and purchasing power, which depends upon prices and taxes. To keep consumption in balance with production so that full employment can be sustained, will require considerable overhauling of economic policies by business, labor, government — in fact, by the entire economy.

It will come as a surprise to many people to learn from the BLS survey that the capacity of our present industrial plant is far short of that required to turn out the volume of production for a full employment economy. The over-all increase in output by 1950 over the 1939 level will have to be in the neighborhood of 80 percent. That will require industry to surpass all previous production peaks in many fields, such as shoes, motor vehicles, coal, petroleum, electrical energy and steel. Steel output will have to exceed the record wartime level of 89 million ingot tons and reach 98 million tons, a level much higher than its present practical working capacity. Greatly increased automobile and truck production under full employment conditions will need a large expansion of highways and urban parking facilities.

A big problem

The BLS study, in giving us a statistical picture of a full employment economy, has underlined the magnitude of the problems that will have to be solved. When we turn from projections to realities, we find that the massive changes required for full employment are not being undertaken. Productivity is rising, but it is being siphoned off into profits instead of being converted into greater purchasing power by means of lower prices and increased wages. The needed expansion of the basic capacity of the economy is being resisted by strongly entrenched monopolies.

Full employment is not, therefore, a foregone certainty for 1950. Prewar patterns of economic behavior threaten to produce again the classic cycle of boom-and-bust. Now is the time to study the means of gearing our economy to the task of providing jobs and well-being for all our people. If things are simply allowed to drift back to a false normalcy, we shall find ourselves grappling, in the years to come, not with the new problems of full employment, but with the old and bitter problems of unemployment, underproduction and want.

Consumer Economics

A review of some important happenings on the consumer front, with comment on the meaning of the news

Production outlook for 1947

The Office of Temporary Controls has made an analysis of the production outlook for this year. The OTC points out that "inflationary forces have been developing, which on analogy with previous cycles, and particularly with that of 1919–1921, would tend to presage a mild recession starting before very long."

The OTC states that certain developments can be expected: (1) some increase in wage rates; (2) price declines in agricultural products; (3) an increase in building activity and in the output of such consumer durable goods as automobiles; (4) and continuation of high level business expenditures for plant and equipment.

But the OTC adds the significant warning that if output is to be maintained at the present high level, it will be necessary for the following developments to take place: there must be no further significant increase in prices — in fact, agricultural and some other out-of-line prices will have to drop; inventory accumulation will have to continue at a substantial rate; construction activity will have to keep on rising; and business investment in plant and equipment will have to be maintained at its present high level.

The OTC then outlines two alternative patterns of economic activity during 1947. Under Alternative A, production and employment would continue at or rise slightly above the present level, with prices rising only very moderately during the first half of the year and declining equally slowly in the second half. Under Alternative B — which the OTC admits "corresponds more closely to the pattern of previous business cycles" — there would be a sharp increase in prices and a very small expansion in production during the first half of 1947, followed by a substantial . . . decline in production, employment, and prices, extending into 1948.

CU Comment: The likelihood is that OTC's more pessimistic Alternative B will be the actual pattern, according to CU's economic consultants. They point out that agricultural prices rose in the first quarter of the year, instead of declining as assumed by the OTC. This development in their opinion will lead to a sharper drop when a general price decline sets in. CU's economic consultants further believe that the OTC underestimates the impact of excessive inventory accumulation on the price and production structure. When inventory purchases begin declining, this in turn, will cause a reduction in business expenditures for plant and equipment. Consequently, the OTC's optimistic Alternative A does not correspond with the economic facts of life.

The implications of Alternative B are far from reassuring. Under Alternative B, the national production, according to OTC, would decline from an annual rate of 220 billion dollars in the second quarter of the year to 180 billions in the fourth quarter, a drop of more than 18 percent. At the same time, unemployment might rise to a possible high of 6 million.

Price climb

Early this year authoritative warnings were issued by the President and other government spokesmen that the country would be plunged into an economic tailspin unless inflationary prices were lowered. President Truman in his "Economic Report" pointed out that "chief among the unfavorable factors is the marked decline in real purchasing power of great numbers of consumers, resulting from the large price increases in the second half of last year. . . . If price and wage adjustments are not made — and made soon enough — there is danger that consumer buying will falter, orders to manufacturers will decline, production will drop, and unemployment will grow." Similarly, the Federal Reserve Board urged "the observance of a general market policy of resisting price advances and of promptly reducing inflated prices."

These warnings have not been heeded. In February and early in March, commodity, wholesale and retail prices soared to new inflationary peaks. An insignificant decline of 0.1% in living costs from mid-December to mid-January was wiped out by sharp increases in retail food and clothing prices and the cost of living resumed its inflationary advance. The latest rise in prices markedly widened the gap between expanding production and declining purchasing power. Thus, in the 12 months ending in February 1947, the purchasing power of the dollar declined by more than 15 percent, while the volume of industrial production rose by more than 25 percent. Government studies indicate that disposable consumer income (income after payment of taxes) would have to rise about 30 billion dollars over the 1946 level to absorb the present output of the economy at current high prices.

CU Comment: The latest inflationary flurry in prices intensifies the threat of an economic slump. The central fact in the situation today is that the economy is produc-

ing more goods than consumers can afford to buy at current prices. This is reflected in the growth of inventories, in the decline in sales of nonessentials, in the increase in bankruptcies among smaller businesses.

Inventory accumulation reflects the development of imbalances in the economy. During the last half of 1946, business inventories were piling up at the record rate of a billion dollars a month. The increase in the first quarter of 1947, when the figures become available, will probably be considerably greater. Sooner or later, inventory pipelines will become clogged with goods that cannot be absorbed by the market and then the stage will be set for a decline in prices, production and employment.

Dr. John D. Clark, a member of the President's Council of Economic Advisers, has posed the issue in these words: "If prices are not reduced and these goods pile up and business slackens, the price reductions will then take place but at the risk of a recession which, once started, might slip beyond our control."

Tax reduction

Congressional proposals for reducing personal income taxes have been incorporated into three bills. The first is the Knutson Bill which calls for a 20 percent across-the-board cut in taxes on all incomes up to $302,000. The second is the Allen Bill which proposes graduated reductions, ranging from 20 percent on incomes up to $2500 to 10 percent on incomes above $10,000. The third is the Engel Bill which raises the exemptions of single individuals from $500 to $1000 and of married couples from $1000 to $2000, while continuing the present exemptions of $500 for children and dependents. Under the Engel Bill, a family with two children would thus have a total exemption of $3000.

CU Comment: Tax reduction proposals should be tested in two ways by Congress. The tax cut should help maintain the purchasing power of the great bulk of the population, thus offsetting in some measure the sharp shrinkage in the purchasing power of wage and salary earners caused by the steep inflationary rise in prices. And the tax reduction should be applied at various levels of income in accordance with ability to pay, with the greatest tax relief going to those who need it most.

By these standards, the Knutson Bill is grossly inequitable and should be rejected. Seventy percent of American families, according to government studies, make less than $3000 a year. But the married man with two children, making $3000 a year, would receive tax savings of only $27.40 under the Knutson Bill. By contrast, a married man with two children making $300,000 a year would get tax savings of $46,654. In other words, this wealthy taxpayer would receive as much tax savings as 1700 taxpayers in the $3000 a year bracket. Under the Knutson Bill the top 10 percent of taxpayers would get tax savings of $1,560,000,000; the bottom 67 percent would get tax savings of only $900,000,000.

The Allen Bill is less inequitable than the Knutson Bill, but it also fails to give real relief to the great majority of taxpayers. Under the Allen Bill, a married man with two children who makes $2500 a year would receive tax savings of $19. But the married man with two children who makes $300,000 would get tax savings of $23,370. Thus, the largest part of the tax savings provided by the Allen Bill would go to the top-income groups, while the lower- and middle-income brackets would not have their purchasing power materially increased.

The Engel Bill gives the bulk of tax reductions to the 92 percent of American families who make less than $5000 a year. A married man with two children who makes $3000 a year would receive tax savings of $137. The married man making $300,000 would have his tax reduction limited to $865. He would get a larger reduction because his increased exemption comes off his top surtax bracket, but he would not get the windfall of $46,654 that the Knutson Bill would give him.

Consumers Union believes that the Engel Bill or other legislation incorporating its principles should be enacted by Congress to provide tax relief where it is really needed. In turn, equitable tax relief will bolster purchasing power at a time when the gap between production and the people's ability to buy is growing ever-wider.

Antimonopoly program

A bipartisan group of seven senators has introduced a far-reaching antimonopoly bill (S. 72) aimed at combating monopolistic practices and curbing the growing concentration of economic power. Republican Senators Morse, Aiken, Langer, and Young, and Democratic Senators Murray, Taylor, and Kilgore have sponsored S. 72 and they have also introduced a resolution which would authorize the Senate Judiciary Committee to carry out a comprehensive investigation of monopolies and the effects of monopolistic controls on the welfare of the economy. Some of the major provisions in the antimonopoly program of this bipartisan group follow:

The President, after consultation with the heads of government departments and agencies, would be required "to develop a consistent and coordinated antimonopoly program and to mobilize the resources of the executive branch of the Federal Government for the most effective administration of such program."

The Clayton Antitrust Act would be amended to permit the Attorney General to intervene in patent suits; to require the filing of all patent assignments and agreements with the Patent Office; and to declare illegal patent licensing agreements which restrict production and control prices.

The participation by American business enterprises in international cartels would be prohibited, but the Government would be permitted to enter into international

commodity agreements.

The Interstate Commerce Commission would be required to establish a uniform classification of property and a uniform scale of freight rates.

All future mergers or corporate acquisitions that tend to lessen competition "to the detriment of the public interest" would be banned.

CU Comment: During the War, there was a great increase in the concentration of economic power. According to recent government studies, 250 corporations now control two-thirds of the usable industrial facilities of the country. There has also been a sharp increase in corporate mergers since the war. Such developments have aroused the concern of the public; they have also made Congress monopoly conscious again after trust-busting was soft pedaled during the war under the pretext that it would interfere with all-out war production.

Consumers, who pay a heavy toll to monopolies almost every time they buy goods or services, have a vital stake in the enactment and enforcement of an effective antimonopoly program. S. 72 represents the first major attempt in three decades to subject monopolistic practices to more rigorous investigation and control. While the proposed legislation would not destroy the economic roots of monopoly, it would be the first step with the promise of a measure of control to be taken since passage of the Clayton Antitrust Act.

But this hopeful step will not materialize unless the public rallies behind the antimonopoly program. Hearings on S. 72 can be used as a forum in which the threat of monopoly to the economic welfare of the nation and its democratic institutions can be brought clearly to light. Popular support for antimonopoly curbs must become so great that Congress will hesitate to evade this major issue.

Profits

Corporate profits after payment of taxes were at an all-time peak in 1946, according to Government estimates. The profit-take of corporations last year amounted to 12 billion dollars, compared with the wartime high of 9.9 billions in 1943 and the previous peacetime record of 8.3 billions in 1929.

A survey of the 1946 profits of 840 large manufacturing corporations made by the National City Bank gives specific details of what took place. Profits after taxes for these companies rose from 1.49 billion dollars in 1945 to 2.05 billions in 1946, an increase of 37.4 percent. The return on the net worth of the 840 corporations increased from 9 percent to 11.9 percent, although net worth in 1946 was 17.25 billion dollars compared with 16.5 billions in 1945. Return on net worth in 1946 was higher than in any war year, when the top return was 10.1 percent in 1942.

Consumers will be particularly interested in the profit increases shown by certain industrial groups. Sixteen baking companies increased their profits by 96.5 percent; 15 meat packing companies, by 96.7 percent; 64 food product companies, by 72.6 percent; 39 beverage companies, by almost 109 percent; 36 cotton goods companies, by more than 200 percent; 49 textile product companies, by 148 percent.

CU Comment: Record profits last year reflected a combination of factors. High volume operations lowered production and overhead costs. Prices rose sharply, especially after lapse of price control in mid-1946. According to the Bureau of Labor Statistics, the prices of 28 basic commodities increased 63 percent last year. Inflationary prices swelled profit margins and contributed towards increasing the total volume of profits. Finally, the elimination of the excess profits tax and the reduction of the corporate tax rate at the end of 1945 increased take-home profits after payment of taxes. In this connection, the National City Bank points out that taxes took 63 percent of corporate earnings in 1945 compared with only 37 percent in 1946.

CU's economic consultants estimate that corporate profits after taxes in the first quarter of this year were running at 14 to 15 billion dollars on an annual basis. They point out that profits are reaching new peaks, but that prices are not being reduced even though industrial production is at record-breaking peacetime levels. According to CU's economic consultants, the drive of big business for ever-greater profits, in the face of dwindling purchasing power due to inflationary prices, is forcing the country into a repetition of the boom-bust cycle that followed the World War I inflation.

The Shape of Things by Eliot F. Noyes

This is the first in a series of articles in which CU will discuss the design of products which are rated in the usual manner elsewhere in the issue. In talking about design in this series, we shall be concerned mainly with appearance, since the functional elements are for the most part analyzed in the Technical Section of the *Reports*. It will be our premise, in this series, that good design means a beautiful expression and integration of functional elements, materials, and manufacturing processes.

The design of products from this point of view is something which CU has previously touched upon incidentally, but it is an important element of the value of many products to the consumer, therefore, it is of concern and interest to the consumer. With many simple objects of

everyday use, the design expression or appearance is the most important factor determining a selection. Where mechanical appliances happen to be rated as having about equal efficiency, appearance may well be the basis for the consumer's decision as to which one to buy.

Fisher & Scott radios

A radio set is a complex and wonderful mechanism known only to this century. Anyone asked to point out the significant accomplishments of our day would surely mention the development of radio along with airplanes and the many other marvels which distinguish our everyday life from that of earlier centuries. It would be only natural to expect that for our inventions we would consistently search for a design expression as direct and contemporary as the objects themselves. In airplanes there is a new kind of beauty which has evolved very naturally from functional considerations. With radios, something seems to have gone wrong.

In the *Scott* and *Fisher* radios (see page 96), CU had only one of each company's cabinets to examine. In both of them we find two major design flaws which are typical of much commercial design in many fields today. The first is an effort to disguise the object, making it look like something more familiar and acceptable. The second is the practice of clothing the object in the details of an earlier period of design, in an effort to lend it an air of borrowed respectability. These two major flaws lead to multiple minor absurdities and inconveniences which we shall point out later. Both the *Fisher* and *Scott* start out by pretending that they aren't radios at all, but are expensive pieces of furniture, like sideboards or cases of some sort, probably hand-made by a master craftsman.

The *Fisher* has what appear to be symmetrically placed drawers at the top, but the right hand one turns out to be a bottom-hinged panel which reveals the face of the radio tuner when open. The left hand one is a drawer without sides which contains the record player. Around the top and base and at appropriate places on the "drawer" faces are all sorts of moldings; borrowed from the past and adding to the incongruity between this shell and the modern mechanism inside.

The *Scott* appears to be an even more imposing relic of antiquity, with four drawers above and a cupboard below. Astonishingly, it turns out that the two left hand drawer faces are actually one single piece which slides forward to expose the record player. On such a pompous piece of furniture, this is something like discovering that grandfather's whiskers are false. The right hand drawers are also a single slab which hinges at the bottom and then slides back into the body of the cabinet, revealing the radio tuner. The cabinet doors below open to expose a decorative grille and fabric covering the speaker.

The general arrangement of the two sets is very similar, but the *Scott* is the worse offender in this game of make-believe. In the *Scott*, the pretense of antiquity is carried on with more of a poker face. There has been trouble, ingenuity, and expense in the generous application of moldings, in carving quarter-columns in the front corners, and in constructing fancy legs. The imitation "antiqued" swinging handles are crude castings, and on the *Scott*, the handles and their fittings are cast in one piece so that they do not swing at all. Though both sets are large, the *Scott* is the larger, being 38½ inches high, 44 inches wide, and 21½ inches deep.

So far we have discussed only the cabinets in which these sets are housed. There are not many of the working parts visible, but they are important too. The *Fisher* tuning panel is a nondescript affair. The various tuning bands are marked off in green letters which show up against a sort of black felt background. The letters have no particular character, and are surmounted by an oversized trade name. At the left side of this panel, running vertically, are five different colored dots which light up to indicate which band is in operation. Five badly detailed knobs, poorly composed, run underneath this panel, and below them is a plate which announces the function of each knob. To look at this set of controls, one would never guess that behind them is an intricate mechanism.

In contrast to this and in its own right, the *Scott* panel is a delight. The entire tuner chassis, well known by its portrait in advertisements, is simply and beautifully laid out, with an excellent dial and handsome control knobs. This is a very superior piece of design, very much in character with the high quality of the radio itself. It is therefore particularly unfortunate that it was felt necessary to cover up as much as possible of this panel by some pseudo-period woodwork and incongruous moldings.

Food mixers

In the case of electric food mixers, from the point of view of design, we have a clear-cut winner in the *Kitchenaid*, which is a simple and direct combination of functional forms. There is no suggestion in the shapes that this is intended for anything but sitting on a kitchen counter and mixing foods. In the others, there is often an indication of an ability to move at high speed. The *Sunbeam*, which perhaps rates second in design, has some little horizontal lines or "speed whiskers" on its sides. These are intended to be decorative, but are dirt catchers, and are misused forms. The *Gilbert* is a racy and aggressive bullet shape, as is the *K-M* mixer. In several cases, the arm bears a marked resemblance to an airplane strut. This tendency to streamline static objects has been one of the most annoying and least justifiable design mannerisms of the past decade. It is seen in full flower in the *Hamilton Beach* mixer, which is a confused set of many high-speed forms ending in a base which has grown little wings or speed ripples. This is complete misuse and misunderstanding of forms.

Should You Build a House?

by Ralph Pomerance and Simon Breines, Architects

For most persons, the answer should be an unqualified "No" at this time, these experienced architects advise

This article is addressed to those who feel that they simply must build or buy a house. The best advice that can be given to such persons, in a nutshell, is this: Unless you have ample funds, don't build or buy now if you can possibly find any other solution for your housing problem. If you do, you may find yourself taking on an impossible financial burden; and furthermore, you face an almost certain depreciation in the value of your house of several thousand dollars in the coming years.

Generally speaking, building prices over the United States are about twice prewar. This means that if you are prepared to spend the amount you would have spent before the war, you will get only about half the house. If your requirements demand the same size house you would have built before the war, you will have to pay twice as much as before.

Proof of this increase is observed in day-to-day experience of every architect. Plans for houses which in 1939 averaged 50¢ per cubic foot in cost, today run $1 or more. A group of nine three- and four-bedroom homes which before the war would have cost from $10,000 to $14,000 were recently estimated to cost from $23,000 to $31,000. And, because of the uncertainties involved in building today, it was difficult to get contractors to give firm lump-sum bids.

The chief reason for the staggering rise in building costs is to be found in the record of building material prices. According to *Construction Market*, a weekly building newspaper published by The Dow Service for the New York metropolitan region, the price of building materials most commonly used in residential work stood as follows in January, 1947, as compared with January, 1939:

Materials Delivered at Job Prices To Contractors in Quantity

Materials	*January 1939*	*January 1947*	*Increase %*
Common Brick, per M	$13.00	$25.50	96
Cement, per bbl.	2.40	3.16	32
Flooring, Oak	118.00	260.00	120
Lime, Hydrated	14.00	22.80	63
Lumber, Base Price	50.00	125.00	150
Plaster, Neat	12.00	19.00	58

Labor rates also rose, but not as sharply. In the New York City area, for example, the wage rates of building labor increased from zero for plumbers to 33 percent for painters, according to the same publication. These are figures for some of the chief trades:

Hourly Wage Rates — New York City Selected Trades

Trades	*1939*	*1947*
Cement Masons	$1.75 (7)	$2.10 (7)
Bricklayers	1.90 (7)	2.50 (7)
Carpenters	1.75 (7)	2.50 (8)
Lathers, Metallic	1.75 (8)	2.10 (7)
Steam Fitters	2.00 (6)	2.30 (7)
Electricians	2.00 (6)	2.25 (6)
Plasterers	2.00 (6)	2.50 (6)
Plumbers	2.00 (6)	2.00 (6)
Common Labor (Excavational)	1.03 (8)	1.25 (8)
Painters	1.50 (7)	2.00 (7)

(Figures in parentheses are the workday hours)

The complete story is not, however, told by the rise in building material prices or by the relatively smaller rise in labor costs. In addition to these factors, the builder is faced with uncertain supplies and delivery dates. A piece of construction takes much longer to complete, which means that equipment is tied up at the site, and there are extra costs for watchmen, for superintendents, and for overhead in general. In bidding on a house, or any other project, the builder must take into account all sorts of contingencies such as sudden rises in material prices, increases in labor rates which currently are in process of renegotiation in most urban centers, and the prolonging of a job indefinitely because of his inability to obtain or to buy some vital material. Little wonder that he is reluctant to guarantee a fixed price. But the buyer, in the absence of a fixed price, may find himself in for costs he simply cannot afford.

The doubling in the price of building, particularly of homes, is a painful surprise to many people not only because the sums involved are relatively large, but also because the housing shortage pinches so hard, and so few can afford what new homes now cost. There is little comfort for such persons in the fact that the percentage

rise in building costs is no greater than for many other consumer goods.

But just as the conscientious consumer should avoid buying anything that is overpriced and that he can do without, so the prospective home builder, unless money is no problem to him, should avoid building a home now if he can manage in any other way.

The financially able

For those who can afford to build, even at present inflated prices, there still remain certain problems and difficulties which were not present before the war.

1. *CPA Limitations.* There is no longer a limit on the cost of a house, but no one may build one with more than 1500 square feet or with more than one bath. This CPA order will bother only those who want extra large rooms, more than three bedrooms, or more than one bath.

2. *Availability of Materials.* While most basic materials are available, selection is frequently limited in plumbing fixtures (especially choice of color), heating equipment, flooring, and millwork.

3. *Time Element.* There is great uncertainty in regard to delivery dates and, of course, to completion time. The inconveniences and extra costs of this uncertainty are obvious.

4. *Builder's Estimates.* Because of all the adverse factors, it is difficult to get competitive bidding or a lump-sum contract. The alternative is cost-plus building in which the total cost is not known until completion. The latter method may be a good and relatively economical way to build if one has an efficient and reliable contractor, but it is dangerous for the homeowner with a limited pocketbook.

5. *Mortgages.* Lending institutions, mindful of future conditions, generally are not offering mortgages which reflect the increase in building cost, so that larger cash payments are required in most cases.

Purchase of existing houses

Those who cannot afford to build at present but who must have a house, may find a solution in the purchase of an existing house. While the prices of existing houses have frequently followed the rise in new construction costs, and in some cases have even gone higher because of immediate availability, it may still be possible to find a reasonably priced older house. However, this reasonable price is likely to be due to deterioration of the neighborhood, lack of repair, or to some other undesirable factor such as great distance from places of employment. Lower prices are usually obtainable in large existing houses where maintenance costs and taxes are high.

An existing house, particularly one of reasonable price, may involve extensive repair and alteration. And since such alterations are high in cost, they may offset the difference between the purchase price and new construction price. Therefore, it would be wise for the purchaser of an existing house to get competent technical advice as to soundness of construction and value. Also, he should check on the neighborhood trend to be reasonably sure it's not on the downgrade. If commuting is involved, he should add its cost to the monthly cost estimate before deciding on the purchase.

Those who can't afford

The great majority of people who need homes are in the category of those who just can't afford them. Nevertheless, despite the high building costs and the scarcity of available existing houses, their housing conditions may be so intolerable that the building of a home or the purchase of a newly-built house may seem to be their only solution.

Some may feel that prices being what they are, they will be content with less house. Usually such persons expect to add more space in the future. In the first place, two-stage construction is not economical. Later additions are not only costly, but very inconvenient. Secondly, the mere reducing of dimensions here and there will not give proportionate economies. The costs of land, site improvement, and utilities (water, electricity, gas, sewage, etc.) are the same whether the house is larger or smaller. Plumbing, heating and electrical work must be installed immediately with enough capacity to anticipate future needs; hence there is wasted capacity until the later additions are made.

On the other hand, there are people who say, "Yes, I know building prices are high — indeed, higher than we can afford — but if there is a bad slump in values later on we can just let the house go and buy a cheaper one." This argument may have some validity for those who can arrange to finance their purchase or building venture with a good-sized mortgage involving little cash equity. In the event of future economic change, they may be able to abandon ownership with relatively little loss provided they are not subject to a deficiency judgment.

Some houses are still being sold under the former $10,000 limit. Veterans can get 90 percent mortgages on such houses, and need pay only $1000 in cash. Nonveterans will have to pay in much more. With the price limitations off, however, the forthcoming crop of houses will inevitably demand more equity (cash) from the owner. The great risk involved in home building at this time will naturally be passed on to the owner. The following example may make this clear.

Let us take the 1500 square foot house which is the maximum under present CPA orders. This will produce a comfortable 5-room dwelling consisting of living room, kitchen, three bedrooms and bath. We may assume that such a house before the war would have cost about $7500 in a northern city area and less elsewhere. With an 80% mortgage, such a house at the time required only $1500

in cash and the person who bought it at the price would have present (1947) operation costs as follows:

Interest and Amortization of $6000 @ .07	$420
Taxes (varying with locality) @ 3% of $7500	225
Heating (where required)	120
Maintenance and Repair	150
Annual Cost	*$915*

Today this same house would take at least $15,000 to build. Chances are that the owner will not be able to borrow more than about $10,000 on the mortgage and therefore will need $5000 in cash. Carrying costs would then be:

Interest and Amortization of $10,000	$ 700
Taxes	225
Heating	120
Maintenance and Repair	150
Annual Cost	*$1195*

The difference today in the annual cost is only $280, but the cash required is $3500 more. Moreover, in the event of a depression, the two houses would have about the same market value. This $3500 is the measure of the extra risk which the lenders or builders are unwilling to assume and therefore pass on to the purchaser.

It would be nice to be able to predict that building prices will come down in the near future. The fact is that they are still rising. The various factors which enter the picture will be discussed in another article, but it is enough to note that there seems to be little likelihood of a surplus of materials or labor because of the great lag, still to be made up, in industrial, commercial and public works. Building wage rates are going up and builders are already anticipating this in their current estimates.

Only those who can afford the existing costs, and even higher costs, should plan to build now or in the near future. For others, the first choice — though a difficult one — is to rent; the second, nearly as difficult, is to buy a suitable existing house.

The rather gloomy picture which is presented in the foregoing applies to most people who plan to build a house. For those who can see their way clear financially, however, the fact remains that, with technological advances in the building industry, good houses can be built at a price.

Notes On The New Records

CU presents the first of a series of reports covering the significant disc releases by both major and independent companies.

For the benefit of the many CU members who own radio-phonographs and who have discovered the delights as well as the headaches of building a library of recorded music, we begin this month a regular series of reports on what the various record companies are bringing out in the way of interesting musical repertoire and performance, as well as in the way of tonal reproduction and playing quality . . . good, bad and indifferent. Opinions on the music and interpretations are, naturally, those of CU's consultant. On the other hand, accuracy of performance, tonal reproduction and playing quality of the discs themselves are rated as objectively as good modern phonograph equipment and trained ears permit.

From time to time, when space permits, we hope to keep our readers informed about newsworthy developments in the record and radio-phonograph industry. While we cannot hope to answer individual inquiries about recordings and radio-phonograph equipment, we shall make every effort to take our mail into account when choosing subjects for comment in these pages.

Bach: Five Arias. Marian Anderson (contralto) with RCA Victor Chamber Orchestra under Robert Shaw. Victor Album M-1087, (three 12-inch records), $3.85. "Kreuze und Krone" from the Cantata No. 12, "Jesus schläft" from the Cantata No. 81, "Zum reinen Wasser" from Cantata No. 112, "Bereite dich, Zion" from the Christmas Oratorio and "Erbarme dich" from the Matthew Passion comprise the contents of this album. The music is cast in the rich and floridly dramatic Bach style and is sung to authentic accompaniments. Miss Anderson is in excellent voice, but her enunciation leaves something to be desired. Recording—good.

Bach: Little Preludes. Erno Balogh (piano). Disc Albums 771/2, (two 12-inch records), $3.25 each. The sets of six and 12 gem-like Little Preludes Bach wrote as teaching pieces for his family are elegantly played here. The recording, though, is a trifle thin.

Beethoven: Symphony No. 6 in F Major, Op. 68 ("Pastoral"). Philadelphia Orchestra under Bruno Walter. Columbia Album M-631 (five 12-inch records), $6. Warmly lyric performance, with recording to match, of a Beethoven hardy perennial. However, a comparison with the Toscanini interpretation (Victor M-417) is in order for the prospective buyer of this set.

Brahms: Piano Concerto No. 1 in D Minor, Op. 15. Rudolf Serkin (piano) with the Pittsburgh Symphony Orchestra under Fritz Reiner. Columbia Album M-652 (six 12-inch records), $7. Record collectors have been waiting years for

a really fine modern disc version of this heroic Brahms masterpiece. Here it is, in as fine a performance as we've ever heard anywhere. The recording job, too, is excellent.

Chopin: Introduction and Polonaise brillante. Gregor Piatigorsky ('cello) with Valentin Pavlovsky (piano). Columbia 71889-D, $1. Accurate but uninspired reading of youthful and likewise none-too-inspired Chopin. The recording is acceptable.

Copland: Sonata for Piano (1941) and Our Town—Three Pieces from the Film Score (1940). Leo Smit (piano). Concert Hall Society Album A-2 (four 12-inch Vinylite records), available by subscription only. As the second album of their unique subscription series featuring outstanding classic, romantic and modern music heretofore unrecorded, Concert Hall Society has issued works by Aaron Copland representative of both his austere and his popular styles. Both compositions are, in their respective fashions, highly poetic. Performances by the young pianist, Leo Smit, are tops, as is the recording job.

Creole Songs. Adelaide van Wey (contralto) with Robert N. Hill (piano). Disc Album 629 (three 10-inch records), $3. Here's the best album of Americana that's come our way in well over a year. The fascinating Latin-American-cum-Blues idiom of Louisiana Creole folksong is wonderfully captured by Miss van Wey. Titles include "Compère Lapin," "Tan siro e dou," "Aine de, trois Caroline," "La Maison Denise," "Salangadou," "Cher mo l'aime toi," "Papa va pêche," "Go 'way Cat," "Morceau Piment," "Aurore Pradere," as well as the street cries, "Watermelon," "Charcoal," "Shrimpy," "Chimney Sweep," "Devil Crab," "Blueberries," and "Sweet Oranges." A "must" album for folksong enthusiasts.

Fauré: Twelve Songs. Isabel French (soprano) and Olympia di Napoli (soprano) with Paul Doguereau (piano). Technichord Album 7 (three 12-inch Vinylite records), $7. Along with Debussy and Duparc, Fauré is one of the great French art song composers. Isabel French sings "Lydia," "Le plus doux chemin," "Mandoline," "Spleen," "Aurore," and "Arpège" with excellent style but not much voice. Her pupil, Miss di Napoli, is heard to decidedly better advantage in "Prison," "Nell," "Diane," "Séléné," "Danseuse," "Soir," and "Larmes." The recording is generally good; and despite the uneven vocalism of Miss French, French art song fanciers should note this set as a "must."

French Piano Music. Gaby Casadesus (piano). Vox Album 163 (four 10-inch records), $3.75. Included are Couperin: "Les Baricades mistèrieuses" and "Carillon de Cythère"; Rameau: "Musette en rondeau" and "Rappel des Oiseaux"; Satie: "Gnossienne No. 3"; Ravel: "Prelude and Minuet on the name of Haydn"; Fauré: "Impromptu No. 2 in C Minor"; Chabrier: "Idylle." The Satie, Fauré and Ravel pieces are all first domestic recordings. Mme. Casadesus is at her best in the modern and near modern music, which is a joy to the ear. The recording is acceptable.

Haydn: Quartet in G Minor, Op. 74, No. 3 ("The Horseman"). Budapest String Quartet. Columbia Album X-274 (two 12-inch records), $3. A terse and brilliant masterwork of the chamber repertoire, magnificently played, but unresonantly recorded.

Khachaturian: Concerto for Piano and Orchestra (1936). William Kapell with the Boston Symphony Orchestra under Serge Koussevitzky. Victor Album M-1084 (four 12-inch records), $4.85. One might describe this music in a word as the Tchaikovsky B-flat Minor Concerto with an Armenian accent. It makes thrilling listening, and receives a stunning recorded performance on these discs.

Khachaturian: Gayane—Ballet Suite. U.S.S.R. All-Union Radio Committee Orchestra under N. S. Golovanov. Compass Album C-53 (two 10-inch records), $3.25. Brilliant and colorful music from a collective farm ballet by Russia's gifted and popular Armenian composer. Excerpts include the popular "Sword Dance," as well as the "Lezghinka" and "Russian Dance." Superb performance, good recording.

Miaskowsky: Symphony No. 21 in F-sharp Minor, Op. 51. U.S.S.R. National Symphony Orchestra under Rachlin. Compass Album C-103 (three 10-inch imported records), $4.50. A first recording of a major orchestra work by Russia's prolific symphonist. The music is in one movement, cast in expressive and broadly lyric style. Performance and recording are adequate, but by no means comparable to what could be done with this music by one of our major American orchestras.

Milhaud: Saudades do Brasil—No. 5. Ipanema, No. 9. Sumare, No. 11. Laranjeiras and **Gershwin:** Prelude No. 2. Artur Rubinstein (piano). Victor 11-9420, $1. The Milhaud Brazilian pieces are colorful, charming and beautifully played here. The Gershwin Prelude is better left to Oscar Levant. Recording—fair.

Moussorgsky: A Night on Bald Mountain (arr. Rimsky-Korsakov). Pittsburgh Symphony Orchestra under Fritz Reiner. Columbia 12470-D, $1. Moussorgsky's hobgoblin music gets a rousing workout, fine recording.

Mozart: Minuets (K. 195). Vox Chamber Orchestra under Edvard Fendler. Vox Album 166 (three 10-inch records), $3. Charming 18th century dance music, expertly played, but only fairly well recorded.

Mozart: Violin Sonatas—C Major (K. 296), B-flat (K. 378), G Major (K. 379). Alexander Schneider (violin) and Ralph Kirkpatrick (harpsichord). Columbia Album M-650 (six 12-inch records), $7. Since harpsichord and piano enjoyed equal status at the time Mozart wrote these sonatas, it's reasonable to suppose that one can give performances today with either keyboard instrument without doing violence to the composer's conceptions. The music is pert, well-fashioned Mozart, and falls most gratefully on the ear. The performances by the former first violin of the Budapest String Quartet and the noted harpsichordist are clean and straightforward . . . the recording —reasonably good.

Prokofieff: Music for Children, Op. 65. Ray Lev (piano). Concert Hall Society Album AC (three 10-inch Vinylite records), $4.50. Beautifully fashioned small piano pieces after the manner of Schumann's "Kinderscenen." Titles include "Morning," "Waltze," "Evening," "Promenade," "Fairytale," "March," "Rain and the Rainbow," "Tarantella," "Regrets," "Tag," "Moonlit Meadows," "Parade of the Grasshoppers." Superb recording and performance.

Prokofieff: Romeo and Juliet—Ballet Suite No. 2, Op. 64b. Moscow State

Philharmonic Orchestra under Serge Prokofieff. Compass Album C-101 (six 10-inch records), $8.25. "Montagues and Capulets," "Juliet the Maiden," "Friar Lawrence," "Dance," "Romeo and Juliet Before Parting," "Dance of the Antilles Maidens" and "Romeo at Juliet's Grave," from Prokofieff's elaborate ballet score, make interesting and sometimes genuinely poignant listening. Fair recording and performance.

Purcell: Trumpet Prelude and **Haydn:** 18th Century Dance (both arr. Leopold Stokowski). Hollywood Bowl Symphony Orchestra under Leopold Stokowski. Victor 11-9419, $1. Delightful early music, superbly arranged, played and recorded. In short, the "good" Stokowski.

Shostakovich: Trio, Op. 67. Dmitri Shostakovich (piano), Tzyganov (violin), Shirinsky ('cello). Compass Album 102 (five 10-inch records), $7. Superlative performance of one of Shostakovich's best chamber compositions. The music is, by turns, elegiac and sardonic. Mr. Shostakovich, a brilliant pianist, fills an extra side with two of his piano preludes. Recording acceptable.

Stravinsky: New Firebird Suite and Fireworks. N. Y. Philharmonic-Symphony Orchestra under Igor Stravinsky. Columbia Album M-653 (four 12-inch records), $5. Here is the most extensive collection of the colorful "Firebird" music ever recorded, with the composer himself at the helm. The performance is not the most exciting we've ever heard, but it's strongly competent. The same holds for the recording.

Tchaikovsky: Polonaise and Waltz from Eugen Onegin. London Philharmonic Orchestra under Sir Thomas Beecham. Victor 11-9421, $1. The lovely dance excerpts from Tchaikovsky's opera have been better played than here both on and off records; this is one of the few times we've ever heard a Beecham performance lacking in spirit. The recording is good but not exceptional.

Wagner: Forest Murmurs from Siegfried. Hollywood Bowl Symphony Orchestra under Leopold Stokowski. Victor 11-9418, $1. Stokowski at his best in a Wagnerian concert favorite. Good recording too.

Wolf: Five Songs. Paul Matthen (bass-baritone) with Bertha Melnik (piano). Hargail Album HN-800 (two 10-inch records), $2.50. Although Hugo Wolf is universally acknowledged as the greatest master of German art song, American record connoisseurs have had, in recent years, to depend mostly on the English "His Master's Voice" discs when it came to acquiring Wolf songs for their record libraries. Hence, this Hargail album is a truly welcome one. Mr. Matthen gives sensitive and highly intelligent renditions of "Benedeit die sel'ge Mutter," "Der Jäger," "Jägerlied," "Fussreise" and "Frage und Antwort." The first of these is an excellent introduction for the novice to the art of Wolf. The recording is reasonably good.

For the People

In the interest of consumer protection, the Federal Trade Commission and the Food and Drug Administration have recently taken action against some well-known and widely advertised products and their makers.

The Federal Trade Commission has instituted complaints of false and misleading advertising against the following manufacturers.

Dr. Miles Nervine and Dr. Miles Anti-Pain Pills

Dr. Miles Liquid Nervine and *Dr. Miles Nervine* tablets (the same medicine in liquid and tablet form) contain dangerous habit-forming bromides, according to a complaint by the Federal Trade Commission. Docket No. 4993 states that the active ingredients are sodium bromide, potassium bromide, and ammonium bromide, and that continued use in a quantity exceeding the recommended dose, or with a frequency exceeding that recommended may cause skin eruptions and mental derangement. Also, their administration to children may be injurious to health. The FTC points out that *Dr. Miles Nervine* does not relieve the underlying conditions causing nervousness, but that the preparations may give partial, temporary relief of nervousness. Because the symptoms are likely to recur day after day, the docket says, "there will exist a tendency for the sufferer to take larger and more frequent doses of respondent's preparations than those prescribed, and the tendency will exist to continue such use day after day over an extended period." Such extended use can have dangerous effects on the patient.

The FTC claims that the Miles Laboratories, Inc., does not warn users of the dangers and that its advertising is misleading and deceptive.

This complaint and a similar one against *Dr. Miles Anti-Pain Pills*, which contain acetanilid, a drug which may cause "blood disturbances and collapse" if used to excess, were initiated in July, 1943. Additional hearings were held recently, but the case has not yet been settled.

Freedom-Valvoline Oil Company

Valvoline Motor Oil will not reduce motor oil consumption one-third, and the Freedom-Valvoline Oil Co. has agreed to stop advertising that it will.

The company had been advertising that: "*Valvoline Motor Oil* will out-perform all other oils! It does not

thicken at low temperatures, or thin-out at high temperatures! Its use will prevent oxidizing or formation of sludges or varnishes! Oil consumption may be reduced one-third!"

After the Federal Trade Commission started proceedings, the company decided not to participate in a hearing and defend its case, but instead to "cease and desist" from using such misleading slogans.

Zonite Products Corp. and Erwin Wasey and Co.

Hearings are continuing on a complaint of false advertising against *Forhan's Toothpaste* manufactured by Zonite Products Corporation. The FTC states that "In truth and in fact, *Forhan's Toothpaste*, however applied, will not afford any protection to the user against either gingivitis or pyorrhea and is of no value in the treatment of gingivitis or any other ailment or condition of the mouth or gums. . . . *Forhan's* will not, however used, protect the teeth of the user against decay. . . . The only value of *Forhan's Toothpaste* is as a not unpleasant adjunct to the use of the toothbrush in cleaning the teeth. . . . *Forhan's* is in no respect extraordinary."

Gimbel Brothers, Inc. — A New York City Department Store.

This store, one of the largest in New York City, has agreed to stop advertising that the *Aer-a-sol* insecticide bomb will kill all types of insects. Gimbels also agreed to stop advertising that the effectiveness of the bomb continues long after application if spraying is continued for six to eight seconds.

[This type of bomb, which contains DDT and Pyrethrum, was described in the October, 1945, issue of *Consumer Reports*. In an article entitled "The DDT Bomb", CU said: "The mist is fatal to all insects that fly through it: flies, moths, mosquitos, etc. *But it does not affect non-flying insects such as cockroaches, ants, and bedbugs. Furthermore, there is practically no residual effect from DDT after the spray has settled.*"]

Shoe Polish

Esquire Boot Polish, a brand that has recently been pushed in chain shoe stores, does not make nicks or scratches disappear and will not prevent leather from cracking or drying out. Such misleading advertising claims may no longer be made.

This change in advertising policy is the result of action brought by the Federal Trade Commission. Without contesting the Government's argument, the manufacturer, Knomark Manufacturing Company, agreed on January 2, 1947, to "cease and desist" from its former advertising claims.

A similar action against Boyer and Company, manufacturers of *Kwik Wite*, resulted in the company's agreeing to discontinue representing that *Kwik Wite*, a white shoe dressing, will not rub off.

The following actions were taken by the Food and Drug Administration against some of the better known manufacturers of popular foods.

Swift and Company

Swift and Company was fined only $100 for shipping adulterated butter from Colorado to Wyoming. The Food and Drug Administration charged the butter, labeled *Swift's Brookfield Butter*, contained nondescript dirt, colored fiber, rodent hairs and insect parts. The charge also stated that the butter "had been prepared, packed or held under insanitary conditions."

Harold H. Clapp, Inc.

Harold H. Clapp, Inc., manufacturer of baby food, was fined $200 for short-weighting canned strained peas. The label read *Clapp's Strained Baby Food Strained Peas — Net Weight 5 oz.* The Food and Drug Administration charged that the cans were short weight since they contained less than the five ounces claimed on the label. The charge was proved and the company paid the fine.

Pillsbury Flours

Shipments of *Pillsbury's Pure White Flour* and such other Pillsbury flours as: *Pillsbury's Best Bakers Patent, Fine Whole Wheat Wheat-All, Best Bake Proved All Purpose Enriched Phosphated Flour*, and *Self Rising Flour Red-Mark* were seized by the Food and Drug Administration and condemned on the charge that they consisted in whole or in part of such filthy substances as insect fragments, beetles, rodent pellets, weevils, larvae and rodent hairs.

H. J. Heinz Company

H. J. Heinz Company was charged with shipping raisins, which were found to be adulterated, from Pittsburgh to Youngstown, Ohio. The package bore the well-known label *Sun-Maid Midget Thompson Seedless Raisins, Sun-Maid Raisin Growers of California, Fresno, California*. The raisins contained moths and larvae. The packages were destroyed.

The Kroger Grocery & Baking Company

The Kroger Grocery & Baking Company was fined $750 for shipping adulterated bread, cake, and cinnamon rolls from Virginia to West Virginia. The Government charged that the products consisted in whole or in part of filthy substances, and that they contained insect fragments, rodent hair fragments, larva head capsules, and mites. The products were labeled *Kroger's Cheese Bread, Kroger's Clock Bread, Yellow Layer*, and *Cinnamon Rolls*.

Phillips Packing Company

Phillips Packing Company admitted that part of a sample of 26,400 cans of pork and beans labeled *Phillips*

Delicious Beans with Pork, was unfit for human consumption since it "consisted in whole or in part of a decomposed substance." A judgment of condemnation was entered and the product was returned to the Phillips Packing Company on condition that the unfit portion be segregated and destroyed under supervision of the Food and Drug Administration.

Cudahy Packing Company

Cudahy's Sunlight Creamery Butter or *Daisy Brand Creamery Butter*, 1088 pounds distributed by The Cudahy Packing Company, was found to be short weight. The prints were labeled "one lb. net." But the Food and Drug Administration claimed that the prints did not contain "one lb. net." Cudahy admitted the allegations and the butter was released under bond with the condition that it be repacked to the declared weight under the supervision of the Food and Drug Administration.

Borden Cheese Company

The Borden Cheese Company was charged with misbranding 622 cases of cocktail spreads, including pimento, relish, olive pimento and smoky cheese.

The Food and Drug Administration stated that pyroligneous acid was used to flavor *Bordens Smoky Cheese Cocktail Spread*, and it was called "Hickory Wood Distillate." The term "Hickory Wood Distillate" misleads the purchaser into thinking that the cheese had been subjected to a natural smoking process, whereas, actually, an artificial flavor had been used. Also, it was charged that the word "sugars" was used instead of "dextrose."

The Food and Drug Administration charged that the labels on the pimento, olive pimento and relish spreads were false and misleading since they stated that one of the ingredients was "organic acid," when, actually, phosphoric acid and inorganic acids were used. Also, the name and place of business of the manufacturer and the common or usual name of each ingredient, which is required by law to appear on the labels, were not properly placed. Also, this information was not printed conspicuously enough so that it could easily be read by the ordinary individual under customary conditions of purchase. The ingredient statement was printed inconspicuously around the borders of the label.

The Borden Company did not answer the charges and the cheeses were delivered to a charitable institution.

Western California Canners

Western California Canners pleaded guilty to charges of shipping *S & W Tomato Sauce*, and . . . *Tomato Paste*, which the Food and Drug Administration found decomposed. The foods were packed in California and shipped to Illinois, Oregon, and New York. The label on the tomato sauce read *S & W Tomato Sauce; S & W Fine Foods, Inc., Distributors, San Francisco.* The label on the tomato paste read *Pastene Tomato Paste *** Distributed by Pastene & Company, Inc.* The company was fined $30.

CUMULATIVE INDEX

• Each issue of the Reports contains this cumulative index of principal subjects covered since publication of the 1947 Buying Guide issue. By supplementing the Buying Guide index with this one, readers can quickly locate current material and keep abreast of changes resulting from new tests. Page numbers run consecutively beginning with the January 1947 issue: Jan. 1–28, Feb. 29–56, Mar. 57–84, Apr. 85–132.

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CU's Movie Poll

The moving picture industry is one of America's biggest, and the price of movie admissions takes a good-sized bite out of the average family's dollar. To help *Reports* readers get "Best Buys" for their movie money, CU presents movie ratings made up with the aid of some two thousand movie-going CU subscribers, most of them group leaders and members of CU's National Advisory Committee. Each participant in the poll is supplied with form postcards, and as soon as he sees a picture, he mails a card to CU headquarters, indicating whether he considers the picture "excellent," "good," "fair," or "poor." The tabulation below shows the percentage of replies in each category for each picture on which there was a significant number of returns. For each picture, the category which received the largest vote is shown by an italic percentage figure. How the movie critics of several magazines and newspapers felt about the same pictures is indicated (to the extent that the varying opinions of various critics can be summarized in a single "excellent," "good," "fair," or "poor" rating) in the last column.

Picture	Stars	% Excellent	% Good	% Fair	% Poor	Critics' Rating
Anna and the King of Siam	Irene Dunne Rex Harrison	*73*	27	0	0	E
Angel on My Shoulder	Paul Muni Anne Baxter	23	*61*	8	8	G
Bachelor's Daughters	Gail Russell Menjou	6	*58*	10	26	G
Blue Skies	Bing Crosby Fred Astaire	31	*48*	21	0	G
Brief Encounter	Celia Johnson	*91*	0	9	0	E
Best Years of Our Lives, The	Frederic March Myrna Loy	*90*	0	10	0	E
Caesar and Cleopatra	Vivien Leigh Claude Rains	35	*43*	18	4	G
Crack-Up	Pat O'Brien Claire Trevor	0	13	*62*	25	G
Dark Mirror	Olivia de Havilland Lew Ayres	44	*52*	2	2	G
Decoy	Jean Gillie Edward Norris	0	5	*50*	45	P
Deception	Bette Davis Paul Henreid	26	*42*	16	16	G
Gentleman Joe Palooka	Leon Errol Kirkwood	0	8	22	*70*	P
Henry V	Laurence Olivier	*100*	0	0	0	E
Humoresque	Joan Crawford John Garfield	30	22	*35*	13	G
It's A Wonderful Life	Jimmy Stewart Donna Reed	*81*	16	3	0	E
I've Always Loved You	Philip Dorn Catherine McLeod	31	*38*	23	8	G
Jolson Story, The	Larry Parks Evelyn Keyes	*75*	23	2	0	E
Killers	Ava Gardner Burt Lancaster	31	*61*	8	0	E
Margie	Jeanne Crain Alan Young	38	*58*	4	0	G
Magnificent Doll	Ginger Rogers Burgess Meredith	*43*	14	29	14	E
My Darling Clementine	Linda Darnell Victor Mature	6	*51*	31	12	G
Nobody Lives Forever	John Garfield Geraldine Fitzgerald	15	*47*	23	15	F
Night and Day	Cary Grant Alexis Smith	*44*	38	12	6	E
Notorious	Cary Grant Bergman	33	*48*	15	4	G
No Leave, No Love	Van Johnson Pat Kirkwood	14	*46*	40	0	G
Never Say Goodbye	Errol Flynn Eleanor Parker	0	30	*60*	10	F
Nocturne	George Raft Lynn Bari	0	*40*	*40*	20	F
Plainsman and the Lady	William Elliot Vera Ralston	15	0	15	*52*	F
Razor's Edge	Tyrone Power Gene Tierney	*35*	29	25	11	G
Rage in Heaven	Bergman Montgomery	16	34	*42*	8	F
Song of the South	Disney Cartoon	*53*	35	12	0	E
Strange Woman	Hedy Lamar George Sanders	14	*50*	29	7	G
Secret Heart	Colbert Pidgeon	29	*47*	18	6	G
Shocking Miss Pilgrim, The	Betty Grable Dick Haymes	0	45	*55*	0	G
Scandal in Paris	Signe Hasso George Sanders	9	27	*55*	9	F
Two Years Before the Mast	Alan Ladd William Bendix	30	20	*40*	10	G
The Time, the Place, and the Girl	Dennis Morgan Janis Paige	29	*57*	7	7	P
Till the Clouds Roll By	Judy Garland Robert Walker	30	*44*	22	4	G
13 Rue Madeleine	James Cagney Annabella	33	*54*	13	0	G
Under-current	Katherine Hepburn Robert Taylor	*48*	16	25	11	F
White Tie and Tails	Ella Raines William Bendix	30	20	*50*	0	F

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